DEP-SSA

A Research Document

A Study on the Effectiveness of EduSat Support Network (Sidhi Pilot Project) on Academic Achievement of Children in Primary Grade

INDIA'S FIRST EXCLUSIVE EDUCATIONAL SATELLITE

सर्व शिक्षा अभियान
सब पढ़ें सब बढ़ें

Distance Education Programme-Sarva Shiksha Abhiyan (DEP-SSA)
(An MHRD-IGNOU, Govt. of India Project)
Maidan Garhi, New Delhi – 110 068

सर्व शिक्षा अभियान

सब पढ़ें सब बढ़ें

Distance Education Programme (DEP) is a major intervention in Sarva Shiksha Abhiyan (SSA) focusing on "strengthening training through distance learning". SSA calls for the training of a large number of teachers and, other personnel to bring out qualitative improvement in elementary education. As face-to-face approach or the cascade model would be inadequate to carry out the enormous task of training and recurrent training of those associated with elementary education, DEP has been envisaged to facilitate the process. The Programme through distance education provides inputs and materials for the training and capacity building of teachers and other functionaries in curricular, contextual and pedagogical areas.

DEP-SSA has been created by the Ministry of HRD, Dept. of Elementary Education & Literacy, Govt. of India as a national center for distance education activities under SSA on 1st July, 2003 and implemented by IGNOU, New Delhi in all the States and UTs of the country. It provides technical support to the states enabling them to adopt distance education as an integral part of SSA. It aims at imparting need-based, local specific in-service training for teachers and other functionaries directly involved in elementary education programme.

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IGNOU

A STUDY ON THE EFFECTIVENESS OF EDUSAT (SIDHI PILOT PROJECT) ON ACADEMIC CHIEVEMENT *OF CHILDREN IN PRIMARY GRADE*

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Distance Education Programme Sarva Shiksha Abhiyan
(DEP-SSA)

(An IGNOU-MHRD, Govt. of India Project)
IGNOU, Maidan Gaghi, New Delhi 110 068

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December, 2007

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Distance Education Programme – Sarva Shiksha Abhiyan (DEP-SSA)
(An IGNOU-MHRD, Govt. of India Project)

A Study on the Effectiveness of Edusat (Sidhi Pilot Project) on Academic Achievement of Children in Primary Grade

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Preface

Research plays an important role in improving the quality of education at all levels. The research based activities at the elementary school level do play an important role to provide qualitative education. As such the research has been a priority area in Distance Education Programme (DEP) which is an integral part of Sarva Shiksha Abhiyan (SSA) under the Deptt. of School Education and Literacy MHRD, Government of India.

The Information Communication Technology (ICT) plays a vital role in improving the standards of elementary education in the country and helps to achieve the goal of Universalization of Elementary Education (UEE). To ensure the provisions made under SSA, the role of ICT is very significant. The functionaries associated with SSA must have competency to impart quality education to children. DEP-SSA is committed to providing academic, administrative, professional, and a technical support to all the states and UTs for ensuring quality elementary education. Accordingly we have been undertaking research activities across the country for capacity building of the functionaries of states/ UTs. We are trying our best to improve the input with regard to strengthening the capacity of various stakeholders of SSA in the years of come. Needless to say that the research is now becoming an important activity to improve the quality of various interventions from time to time.

The Edusat is a powerful mode of disseminating knowledge and information to remotest parts of the country. This is a mode which strengthens the communication between the teaching-end and the learning-end. It is in this context that the present study entitled **"A Study on the Effectiveness of Edusat (Sidhi Pilot Project on Academic Achievement of Children at Primary Grade"** was taken up. It is a research study, brought about by DEP-SSA, IGNOU. The document contains statistical data on achievement of children in different subjects like Hindi, English, Mathematics, and EVS at different levels of primary grade. It also talks of specific indicators with regard to Edusat programmes over different aspects of quality improvement. The findings of the study pertaining to suggestions from various stakeholders of Madhya Pradesh will be of particular use to the organizers of Edusat as per the need of individuals. The presentation of information is very useful, informative, and centers around the objectives of policy makers, administrators and planners. The information which is being presented through this publication is enormous and rich in content. It presents a variety of state specific suggestions, which would be of immense help to organizers of Edusat and other functionaries involved at the teaching-learning end.

I take this opportunity to thank Department of School Education and Literacy, MHRD, Govt. of India for consistently supporting DEP-SSA activities in general and study in hand in particular.

I am grateful to the State Project Director of Madhya Pradesh as well as his team for having provided the administrative and academic support. At the same time it is my pleasure to express a special thanks to the Principal DIET, Sidhi and his team for extending whole hearted support in the collection of data. Thanks are also due to all the BRCCs of sidhi district who have rendered support in the field study.

I also convey my heart felt thanks to all the resource persons who developed the tools for collection of relevant data to make this study possible.

I will be failing in my duty in I do not appreciate the efforts of faculty members of DEP-SSA in general and Dr. M.K. Dash, Programme officer in particular for brining out this informative research document.

I also wish to place on record my appreciation for the support provided by the support staff of DEP-SSA, IGNOU for the completion of this study.

I am sure that the researchers, policy makers, administrators and planners will find this publications informative and useful for achieving excellence in education at the primary level.

January, 2008

Prof. M.L. Koul
Project Director
DEP-SSA, IGNOU

ACKNOWLEDGEMENTS

Distance Education Programme – Sarva Shiksha Abhiyan (DEP-SSA) is a national component for distance education activities under SSA focussing on strengthening training through distance learning. This is an integral component of SSA which provide need-based, local specific in-service training for teachers and other stakeholders involved in elementary education programme. This project is being sponsored by MHRD, Govt. of India and implemented in all over the country. Undertaking research studies on various aspects of SSA is one of the major focuses of DEP-SSA, IGNOU.

I take the opportunity to thanks Hon'ble Vice-Chancellor, IGNOU for consistently supporting activities of DEP-SSA ever since its inception.

I express my deep sense of gratitude, esteem end appreciation to Prof. M. L. Koul, Project Director for his valuable guidance, supervision, suggestion, encouragement and constant inspiration. I appreciate the support that I have been receiving from my faculty colleagues from time to time.

I am greatly indebted to the State Project Director of Madhya Pradesh as well as all other SSA functionaries of the state of Madhya Pradesh for their kind cooperation and valuable administrative support. The cooperation of the Principal, DIET, Sidhi and his team in the collection of data is highly appreciated.

I would like to thank to the team of resource persons who developed the tool for collection of relevant data for this study.

I am also very much thankful to Prof. Lokesh Koul for editing of the draft and provided constructive suggestion for its improvement.

The contribution of all support staff of DEP-SSA are gratefully acknowledged. Thanks are also due to all those who helped to complete this study.

I hope that this publication will of value for education planners, administrators, policy makers and researchers. Any suggestions for improvement are most welcome.

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November, 2007

About the Document

Universalisation of quality elementary education has become the top priority of al developing countries. India is a multilingual and multi-cultural country with larg geographical barriers, many are even inaccessible. Lack of infrastructure at rural areas and insufficient quality teachers are some of the great hurdles which adversely affect the efforts made in elementary education. Distance Education Programme (DEP) is one of the major intervention under Sarva Shiksha Abhiyan (SSA) which aims at reaching the unreached through quality Open Distance Learning (ODL) materials for strengthening the capacity of teachers and other functionaries associated with SSA. DEP meant to facilitate in-service teachers education programme in a mission mode and provide recurrent training to SSA functionaries. Capacity building of teachers and other SSA functionaries on curriculum transaction, pedagogy and information communication technologies (ICTs) are the priority areas of DEP-SSA. ICTs are the major factor in shaping the strategies of teaching and learning. Student and teacher must have sufficient access to digital technologies and internet. Teacher education institutions are facing challenges for preparing teachers for new generations who can use the technology effectively at their level.

The Department of Space, Govt. of India has made heavy investment on the launch of EduSat on September 20, 2004, a dedicated satellite for education and development. The services of the satellite are available for 24 hours. The Department of Space has activated one National Hub to support National Level Networks and activated five Regional Hubs to support regional/state level networks in the country. EduSat was launched to provide quality education at elementary stage. Launching of EduSat presented a big challenge for optimum utilization of its capabilities to facilitate and accelerate the pace of progress in all sectors of our education system. Indira Gandhi National Open University (IGNOU), in collaboration with Indian Space Research Organization (ISRO) and Ministry of Human Resource Development (MHRD), Govt. of India has initiated a pilot project titled Rajiv Gandhi project for EduSat supported Elementary Education (RGPEEE) to utilize EduSat capabilities in strengthening quality elementary education. The main objectives of this project are to impart value-added ICT, enabled educational programme for improving the quality of education and training, both for children and teachers and support literacy and adult education programme. This is the first phase where the project focused on Sidhi district of Madhya Pradesh which is one of the educationally backward district of the state. In addition to Sidhi district, three other districts from the adjoining state of Madhya Pradesh i.e. Vaishali from Bihar, Koria from Chhattisgarh and Sonebhadra form Uttar Pradesh were also considered. In

Sidhi district seven blocks (except Kusmi) and one block from each of the adjoining district of M.P., mentioned above were selected. ROTs and SITs have been installed in the selected blocks. The project covers four Hindi speaking states. Sidhi district of Madhya Pradesh has been selected as the focus of the project in which 700 learning centres spread over seven different blocks (i.e. Sidhi, Rampur, Sihawal, Majholi, Waidhan, Chitrongi and Devsar). Only in one block i.e. Kusmi where no ROT was installed. At each of the learning centers one Receive Only Terminals (ROT) is installed.

The project was inaugurated by Hon'ble Minister of Human resource Development, Shri Arjun Singh on December 07, 2005 from EMPC Studio, IGNOU, New Delhi. Following are some broad important objectives of Sidhi Pilot Project ; i)ensuring availability of quality online content and access devices in schools; ii) enrich the existing curriculum and pedagogy at different levels by employing all the technologies available through the EduSat including virtual classroom video on demand etc. ; iii) promote a shift from passive learning to active learning ; iv) providing in-service and research training to school teachers for up gradation of their knowledge and skill v) create a suitable environment for the optional use of the EduSat; and vi) provide training to teachers and master trainers in handling IT supported and ICT-enabled education through EduSat.

DEP-SSA, IGNOU in collaboration with Regional centres, IGNOU, Prantiya Shiksha Mahavidyalaya, Jabalpur, Rajya Shiksha Kendra, Bhopal and State Project Offices of Bihar, Chhatisgarh and Uttar Pradesh organized ten orientation programmes for the elementary school teachers on utilization of EduSat during September 2005 to March 2006. The important objectives of the programmes were to orient teachers in teaching through EduSat and their role and responsibility in facilitating learning of children. Following topics were deliberated in these programmes; i) ICT-enabled and IT-supported Education : Concept and Need ; ii) role of Open Distance Education in Quality Education ; iii) EduSat: its potentials for elementary level education; iv) project Implementation (EduSat), monitoring and feedback; v) role and responsibilities of teachers during EduSat transmission; vi) designing and developing tele-teaching materials; and vii) learning from interactive multimedia CDs. Total 868 teachers from four states were oriented during 10 phases of orientation. Particularly from the Sidhi district of Madhya Pradesh, 714 teachers from selected schools were oriented during several phases of orientation. A group of 42 teachers were trained specially for intensive training in teaching (live) from Jabalpur studio at EMPC Studio, IGNOU. These 42 teachers were trained in content generation and its presentation through television from Jabalpur Studio (teaching end).

In the context of EduSat for providing quality education, it is essential to study the effectiveness (impact) of this specially designed Edusat support network on academic achievement of children. One of the objectives of Edusat is to improve performance of children by providing quality education. Through this innovative technology it is possible to reach the students staying at remotest part of the Sidhi district. Keeping this objective in view, it would be worthwhile to study the effectiveness of this technology on academic achievement of children of Class III and V of Sidhi district in four different subjects like Hindi, English, EVS and Mathematics. Attempt has also been taken to compare the mean achievement of children of ROT schools and non-ROT schools of seven different blocks of Sidhi district. As on date very few studies have been conducted to measure the academic achievement of children for studying the impact of ICTs in our country. Specifically, the effectiveness of Edusat on the academic achievement of children has not been studied so far. The present study is the first endeavor in this direction to get answers of certain specific questions like; i) does the teaching through EduSat improve the level of achievement of children? ; ii) does the children taught through EduSat able to compete with their counterparts through classroom teaching only? ; iii) does the academic performance of children of primary grade improve as a result of implementation of EduSat in Sidhi district? ; and iv) how this intervention of teaching and learning through EduSat be made more effective? Though various studies have already been conducted on the impact of teleconferencing, video conferencing but no study has been conducted so far to find out the impact of EduSat on the academic achievement of children in primary grade. This is the first attempt which has been undertaken under DEP-SSA, IGNOU to study the effectiveness of teaching through EduSat on the achievement of children of class III and V in various subject like; Hindi, English, EVS and Mathematics. This endeavor has been made to study comprehensively the academic performance of children under primary grade. The study entitled ***"A Study on the Effectiveness of EDUSAT Support Network (Sidhi Pilot Project) on Academic Achievement of Children in Primary Grade"*** was undertaken with the following important objectives.

1. To study the effectiveness of EduSat network on the academic achievement of children studying in primary grade (Class III and V)
2. To compare the academic achievement of children of ROT schools with that of their counterparts of NON-ROT schools.
3. To suggest measures, for further improvement of EduSat supported network for quality elementary education.

The sample of the study constitute students of Std III and IV from 7 different blocks of Sidhi district where EduSat network is being operated. From each block, 3 schools were selected. Out of three, two schools where ROT is installed and one schools where no ROT is installed. Keeping in view of the size of population and nature of clientele group, 'Purposive Sampling' technique was adopted. Total 328 students from standard V (231 from ROT schools and 97 from NON-ROT schools) and 334 from standard III (230 from ROT schools and 104 from NON-ROT schools) were selected as the sample of the study.

A competency based achievement tests on Hindi, English, EVS and Mathematics were developed particularly for these subjects keeping in view the content taught through EduSat. These tests were used in the present study to collect the relevant data from children of Std. III and Std. V.

In the present study analysis, interpretation and presentation of result have been provided sequentially and systematically. The focus of the study was to assess the effectiveness of EduSat on academic achievement (performance) of children in primary grade of Sidhi district. To compare the academic achievement of the children (district level) belonging to ROT schools with that of the Non-ROT schools of Standard V in Hindi, English, EVS and Mathematics, critical ratio (C.R.) is used. Similarly, for standard III as well. Critical Ratio is determined on the basis of comparison of percentage of achievement of children belonging to two different schools. At the same time to compare the academic achievement of the children (at Block Level) belonging to ROT schools with that of the Non-ROT schools of Standard V and III in Hindi, English, EVS and Mathematics, 't' - test is used. 't' value is determined on the basis of comparison of mean square of achievement of children belonging to two different schools.

The analysis and interpretation of the collected data was made in four different sections namely; i) Section A : analysis and interpretation of the achievement of children (Sidhi district) of Std. V in Hindi, English, EVS, Mathematics and their overall (Mean) academic achievements as well ; ii) Section B : Analysis and interpretation of the achievement of children (Rampur, Majholi, Chitrongi, Devsar, Waidhan, Sinhawal and Sidhi Blocks) of Std. V in Hindi, English, EVS, Mathematics and their overall mean academic achievements; iii) Section C : analysis and interpretation of the achievement of children (Sidhi district) of Std. III in Hindi, English, EVS, Mathematics and their overall academic achievements; amd iv) Section D : analysis and interpretation of the achievement of children (Rampur, Majholi, Chitrongi, Devsar, Waidhan, Sinhawal and Sidhi Blocks) of Std. III in Hindi, English, EVS, Mathematics and their overall mean academic achievements.

The analysis and interpretation of the present study have reflected some findings which are of high significance.The major findings have been discussed under 12 different sections namely; i) comparison of the performance of children in academic achievement in the ROT and NON-ROT Schools of Sidhi District; ii) comparison of performance of children's achievement on Hindi in the ROT and NON-ROT Schools of Sidhi District; iii) comparison of performance of children's achievement on English in the ROT and NON-ROT Schools of Sidhi District; iv) comparison of performance of children's achievement on EVS in the ROT and NON-ROT Schools of Sidhi District; v) comparison of performance of children's achievement on Mathematics in the ROT and NON-ROT Schools of Sidhi District; vi) comparison of performance of children's achievement on Hindi, English, EVS and Mathematics in the ROT and NON-ROT Schools of Rampur Block of Sidhi District; vii) Comparison of performance of Children's achievement on Hindi, English, EVS and Mathematics in the ROT and NON-ROT Schools of Majholi Block of Sidhi District; viii) Comparison of performance of children's achievement on Hindi, English, EVS and Mathematics an the ROT and NON-ROT Schools of Chitrongi Block of Sidhi District; ix) comparison of performance of children's achievement on Hindi, English, EVS and Mathematics in the ROT And Non-ROT Schools of Devsar Block of Sidhi District; x) comparison of performance of children's achievement on Hindi, English, EVS and Mathematics in the ROT and NON-ROT Schools of Waidhan Block of Sidhi District; xi) comparison of performance of children's achievement on Hindi, English, EVS and Mathematics in the ROT and NOT ROT Schools of Sihawal Block of Sidhi District; and xii) comparison of performance of children's achievement on Hindi, English, EVS and Mathematics in the ROT and NON- ROT Schools of Sidhi Block of Sidhi District.

The findings of the present study have implications for improving the planning instructional strategies for EduSat programme in general and for specific target groups in particular. One of the objectives of the present study was to examine the effectiveness of EduSat programme on improving the academic achievement of children. The trend analysis programme indicates that EduSat transmission is steadily making consistent progress towards the improvement of the academic achievement of children and development of academic environment in the primary / elementary schools. However, specific observation based on the basis of the findings of the present study require strategic planning and its effective implementation. Since the entire sample schools were found to have inadequate essential facilities in respect of seating arrangements and study materials. Hence steps may be taken to mobilize block and district level authorities to make funds available for these purposes. A large number of teachers may be provided recurrent training/orientation and their services should be utilized in schools for taking maximum benefit of EduSat transmission and thereby increasing achievement of students. Steps may be taken to appoint a nodal officer in each Block who should be accountable for making necessary arrangement and maintenance of ROTs and T.V. sets and ensure success of EduSat programme. More focused attention is required to improve the participation of concerned subject teacher in interaction/discussion sessions after the transmission. Certain specific intervention strategies have been suggested in this report for improving the quality of Edusat transmission and ensure universalisation of quality elementary education with the support of effective implementation of Information Communication Technologies (ICTs).

Dr. Manoj Kumar Dash
Programme officer

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A STUDY ON THE EFFECTIVENESS OF EDUSAT SUPPORT NETWORK (SIDHI PILOT PROJECT) ON ACADEMIC ACHIEVEMENT OF CHILDREN IN PRIMARY GRADE

1.0 INTRODUCTION

One of the important role of education is an instrument of social change. It is essential to alter human resources, perspectives and transmitting the conventional concept for bringing quality in the field of elementary education. Universalisation of elementary education and quality elementary education has become the top priority of all developing countries. India is a multilingual and multi-cultural country with large geographical barriers, many are even inaccessible. Lack of infrastructure at rural areas and insufficient quality teachers are the greater hurdle which adversely effect the efforts made in education.

Distance Education Programme (DEP) is one of the major intervention under Sarva Shiksha Abhiyan (SSA) which aims at reaching the unreached through quality Open Distance Learning (ODL) materials for strengthening the capacity of teachers. DEP meant to facilitate teachers training programme in a mission mode and provide recurrent training to SSA functionaries. Capacity building of teachers and other SSA functionaries on curriculum, pedagogy and information communication technologies (ICTs) are the priority areas of DEP-SSA. DEP-SSA is developing quality interactive multimedia CDs for the use of teachers and children.

ICTs are the major factor in shaping the strategies of teaching and learning. Student and teacher must have sufficient access to digital technologies and internet. Teacher education institutions are facing challenges for preparing teachers for new generations who can use the technology effectively at their level.

1.1 ICT for Classroom Process

Instructional design of ICT is based on constructivist theory. Children construct their own knowledge and understanding through experience based on interaction. Interactive and experimental learning makes the learner an active member in the process of learning. Learners are guided by teachers but construct knowledge at their own. It is the learner who applies his/her existing knowledge and experience in future. ICT is a medium which can promote more and more student-centered and interactive learning. This technology has enormous potential to revolutionize education.

Analysis of the use of ICTs suggests that there is a vast scope of application of this technology for accelerating access and equality at the elementary school level and also improving quality of elementary education in our country. Providing adequate inputs ensure optimal utilization of this technology. It is essential to work out short-term and long-term interventions to improve quality of education including elementary education through the use of ICT.

2.0 SATELLITES FOR EDUCATION

Satellites can establish the connectivity between educational institutions with adequate infrastructure for imparting quality education. This facility can be extended to any part of the country. Not only it supports formal education but it facilitate the dissemination of knowledge to rural and remote population on various aspects like health, hygiene and personality development and help functionaries to update their knowledge also. It is an alternative (tele education) of limited trained and skilled teachers to meet the aspirations of increasing/growing student population in various educational institutions.

The concept of providing educational programmes through satellites was effectively demonstrated for the first time in India in 1975-76 through the Satellite Instructional Television Experiment (SITE) using the American Application Technology Satellite (ATS-6). Programmes pertaining to health, hygiene and family planning were telecasted directly to about 2400 Indian villages of over six different states.

Later, with the commissioning of INSAT system in 1983, a variety of educational programmes are being telecasted. In the 90s Jhabva Developmental Communication Project (JDCP) and Training and Developmental Communication Channel (TDCC) further demonstrated the efficacy of tele education.

2.1 Launch of EDUSAT

The Department of Space, Govt. of India has made heavy investment on the launch of EduSat on September 20, 2004, a dedicated satellite for education and development. The services of the satellite are available for 24 hours. The Department of Space has activated one National Hub to support National Level Networks and activated five Regional Hubs to support regional/state level networks in the country. EduSat was launched to provide quality education at elementary stage. Launching of EduSat presented a big challenge for optimum utilization of its capabilities to facilitate and accelerate the pace of progress in all sectors of our education system.

3.0 SIDHI PILOT PROJECT

Indira Gandhi National Open University (IGNOU), in collaboration with Indian Space Research Organization (ISRO) and Ministry of Human Resource Development (MHRD), Govt. of India has initiated a pilot project titled ***Rajiv Gandhi project for EduSat supported Elementary Education (RGPEEE)*** to utilize EduSat capabilities in strengthening quality elementary education. The main objectives of this project are to impart value-added ICT, enabled educational programme for improving the quality of education and training both for children and teachers and support literacy and adult education programme. This is the first phase where the project focused on Sidhi district of Madhya Pradesh which is one of the educationally backward district of the state. In addition to Sidhi district, one district from Bihar i.e. Vaishali, one from Chhattisgarh i.e. Koria and one form Uttar Pradesh i.e. Sonebhadra. These are the three adjoining state of Madhya Pradesh. In Sidhi district seven blocks (except Kusmi) and one block from each of the adjoining district of M.P., mentioned above were selected. **ROTs and SITs have been installed in the selected blocks**.

3.1 List of ROTs and SITs

S. No.	State	District	No. of ROTs	No. of SITs
1.	Madhya Pradesh	Sidhi	700	9
2.	Chhattisgarh	Koria	50	1
3.	Uttar Pradesh	Sonebhadra	50	1
4.	Bihar	Vaishali	50	1
TOTAL			**850**	**12**

The project covers four Hindi speaking states. Sidhi district of Madhya Pradesh has been selected as the focus of the project in which 700 learning centres spread over seven different blocks (i.e. Sidhi, Rampur, Sihawal, Majholi, Waidhan, Chitrongi and Devsar). Only in one block i.e. Kusmi no ROT was installed. In each of the learning centres one Receive Only Terminals (ROT) is installed.

The project was inaugurated by Hon'ble Minister of Human resource Department, Shri Arjun Singh on December 07, 2005 from EMPC Studio, IGNOU, New Delhi. On the same day, EduSat studio located at Prantiya Shiksha Mahavidyalaya (PSU), Jabalpur and SIT at DIET Sidhi have also been inaugurated. 700 ROTs and 9 SITs were installed in the Sidhi district over seven different blocks. A studio at PSM, Jabalpur was constructed as the teaching end for the project. Transmission (tele-teaching) has been started from December 19, 2005 for primary classes children from Monday to Friday and for teachers on every Saturday.

3.2 Objectives of the Project

Following are some broad important objectives of Sidhi Pilot Project:

i) Ensuring availability of quality online content and access devices in schools.
ii) Enrich the existing curriculum and pedagogy at different levels by employing all the technologies available through the EduSat including virtual classroom video on demand etc.
iii) Promote a shift from passive learning to active learning.
iv) Providing in-service and research training to school teachers for upgradation of their knowledge and skill.
v) Create a suitable environment for the optional use of the EduSat.
vi) Provide training to teachers and master trainers in handling IT supported and ICT-enabled education through EduSat.

3.3 Implementation and Monitoring of the Project

This project is managed and monitored on the pattern of existing DEP-SSA centre located in IGNOU. Vice-Chancellor, IGNOU constituted the Apex Core-group which includes officials of MHRD, Education Department of concern states, ISRO, IGNOU and few educationalists. Vice-Chancellor, IGNOU is the chairperson of the core-group.

3.4 Orientation of Teachers in Utilization of EDUSAT

DEP-SSA, IGNOU in collaboration with Regional centres, IGNOU, PSM, Jabalpur, Rajya Shiksha Kendra, Bhopal and State Project Offices of Bihar, Chhatisgarh and Uttar Pradesh organized ten orientation programmes for the elementary school teachers on utilization of EduSat during September 2005 to March 2006. The important objectives of the programmes were to orient teachers in teaching through

EduSat and their role and responsibility in facilitating children learning. Following topics were deliberated in these programmes:

- ICT-enabled and IT-supported Education : Concept and Need.
- Role of Open Distance Education in Quality Education.
- EduSat: its potentials for elementary level education.
- Project Implementation (EduSat), monitoring and feedback.
- Role and responsibilities of teachers during EduSat transmission.
- Designing and developing tele-teaching materials.
- Learning from interactive multimedia CDs.

3.4.1 Details of orientation programmes

The necessary details in respect of these programmes are presented in the following Table:

S. No.	Duration	Venue	No. of Participants
1.	Sept 26-28, 2005	PSM, Jabalpur, M.P	96
2.	Nov. 05-07, 2005	DIET, Sidhi, M.P	72
	Nov. 16-18, 2005	BRC, Waidhan, M.P.	81
3.	Nov. 16-18, 2005	DIET, Sidhi, M.P.	84
		BRC, Waidhan, M.P.	104
4.	Nov. 19-21, 2005	DIET, Sidhi, M.P.	129
		BRC, Waidhan, M.P.	152
5.	Feb. 27-March 01, 2006	BRC, Baikunthapur, Chhatisgarh	50
6.	March 6-8, 2006	DIET, Robertsganj, U.P.	49
7.	March 31 – April 02, 2006	DIET, Vaishali, Bihar	51
TOTAL			**868**

Total 868 teachers from four states were oriented during 10 phases of orientation. Particularly from the Sidhi district of Madhya Pradesh, 718 teachers from selected schools were oriented during several phases of orientation. A group of 50 teachers were selected for intensive training in teaching (live) from Jabalpur studio. 42 out of 50 attended the training programme organized during December 09-13, 2005 at EMPC Studio, IGNOU. These 42 teachers were trained in development of content generation and its presentation through television from Jabalpur Studio.

3.5 Transmissions through EDUSAT

From December 19, 2005, tele-teaching was carried out from 11:00 a.m. to 01:00 p.m. (repeated from 02:00 p.m. to 04:00 p.m.) from the teaching end, PSM, Jabalpur studio. Academic Calendar of primary classes for the year 2005-06 was taken into consideration while preparing schedule for transmission for schools of Sidhi. Elementary school teachers (especially trained) from Sidhi district and Jabalpur were invited to teach the hard spots identified by the state educationists. Besides teaching primary classes one-hour transmission on Saturday is being used for providing training to teachers. Implementation of the project was closely monitored by DEP-SSA upto 31st March, 2006.

4.0 RATIONALE OF THE STUDY

In the context of EduSat for quality elementary education, it is essential to study the effectiveness (impact) of this specially designed Edusat Support Network on the academic achievement of children. As the basic objective is to improve the performance of children by providing quality education, through this innovative technology it is possible to reach the students staying at remotest part of the Sidhi district. Keeping this objective in view, it would be worthwhile to study the effectiveness of this technology on academic achievement of children of Class III and V of Sidhi district in four different subjects like Hindi, English, EVS and Mathematics. It is also needed to compare the mean achievement of children of ROT schools and non-ROT schools of seven different blocks of Sidhi district. As on date very few studies have been conducted to measure the academic achievement of children for studying the impact of ICTs in our country. Specifically, the impact of Edusat on the academic achievement of children has not been studied so far. The present study is the first endeavor in this direction.

5.0 RESEARCH OUESTIONS

- Does the teaching through EduSat improve the level of achievement of children?
- Does the children taught through EduSat able to compete with their counterparts through classroom teaching only.
- Does the academic performance of children of primary grade improve as the result of implementation of EduSat teaching in Sidhi district?

- How this intervention of teaching and learning through EduSat be made more effective?

6.0 REVIEW OF RELATED LITERATURE

Review of the research studies relating to the problem under study is essential for all researchers to develop a thorough understanding of work already done in the area of transmission through EduSat which is a relatively new field of study in our country. In the present study, the investigator has attempted to scan most of the relevant studies carried out in the filed of information communication technology and effective classroom process.

Chandiran J and Singh J. (2001) found that the language used by resource persons from studio (at the teaching end) in delivering the content, maximum participants expressed their satisfaction. Participants at different learning ends were enlightened about various issues of primary education. Participant gained maximum knowledge from the special strategies (teleconferencing) adopted for tribal areas in the context of girls education.

Jayatillike B.G. (2001) conducted a study on the evaluation of teleconferencing in non-formal education.The study revealed that the viewers find the programe interesting and practically useful in their day-today activities. Viewers opined that the programme helped them (improve their knowledge (55%); (ii) spend their leisure profitably (41%); and (iii) find opportunity for self employment (24%).

Trivedi (1998) in his study pointed that interactive communication using satellite and long distance telephone links contributed to the knowledge gain of the participants and conceptual understanding of the participants improved significantly. The method of teaching/learning is not necessarily more effective than classroom instruction. It is cost effective alternative, especially in situations of great distances and inequalities of resources and facilitators. More time should be devoted for interaction purpose as well. Availability of infrastructure at the learning end is a matter of great concern for all participants at many learning centres.

Raghubanshi and Mishra (1996) found that although a majority of learners (70%) were aware of the teleconferencing facility, they could not attend the sessions because of lack of information or late receipt of information about the schedule.

Chadiram J and Singh J (2002) revealed that panelists presented the lesson in a well-structured manner and had good expertise in the content area and were quite competent in answering the questions.

Taleem Research Foundation (1999) in their study clearly pointed out that teleconferencing requires careful planning, attention to detail and close matching of content to learners needs; participants are in favour of telecasting because of its novel nature and perceived benefits. This technology is user-friendly in nature and interest level is high among participants.

Agrawal and Panda (1992) suggested that system of teleconferencing provides immediately instant, lively and spontaneous interaction among experts at the teaching end and among participants at the receiving end which otherwise is not found in existing distance teaching-learning situation.

Radii (1995) pointed that there is no clear cut evidence to show that interaction through the one-way video, two way audio approach produced higher learning outcomes or that it was more effective than mere one transmission of information through television, planning and sound instructional design in content area critical for any impact on learners.

Rao and Khan (1997) found that professional courses were suited to teleconferencing because the learners enrolled on these courses were mature and motivated enough to derive optimum benefit from the system. Attitude and reactions towards teleconferencing as a mode of instruction were generally favorable, participants clarified that regular use of teleconferencing would depend upon improvement in timing,_access to telephone facilities and high quality of programme content, inadequate reaction time, long holding time before a call would mature, poor quality of audio in telephone call and the echo caused by not muting the television set when questions are asked.

Dash (1997) studied in the reaction of participant regarding content and its presentation, interaction between the experts and participants, technology related matters and activities at the learning ends. The findings revealed that the participants reacted favorably on all these counts

Sahoo (1994) found that participants were positive in the role of telecasting and responded favorably and quality of presentation of all programmes was found to be either average or of high standard. Quality of the presenter's performance was rated high. The time provided for refreshment and follow up of learners was found to be average.

Backer (1999) emphasizes that besides being a means to collect, interpret and document findings, evaluation is a planning tool that should be considered at the beginning of any innovation. The overall focus of evaluation is student learning.

Byrom and Bingham (2001) in their study revealed that before technology is purchased or teachers participate in their first professional development session, the educational goals for students should be determined. What do students need to learn and how can technology promote these learning goals? To answer such questions, school can convene a technology planning team comprising administrators, teachers, other instructional staff, technology coordinators, students, parents and representative of community. This team need to develop a clear set of goals, expectations and criteria for student learning based on national and state level standards. Next it determines the types of technology that will best support the efforts to meet these goals.

O'Duyer et al (2005) found that while controlling for both prior achievement and socio-economic status, fourth grade students who reported greater frequency of technology use at school to edit papers were likely to have higher total English/language Art test scores and higher writing scores on fourth grade test scores on the Massachusettes Comprehensive System (MCS) English/ Language Art Test.

Wenglinsky (1998) in his study has stressed on the need for the use of technology over well-defined periods of time in order to conduct controlled experiments that will contribute to build the evidence on its contribution to learning and teaching.

Benton's (2002) study focused on the efficacy and cost-effectiveness of technology. He found that technology must be supported by significant investment in professional development and support services.They also noticed that the unprecedented level of investment in educational technology has raised expectations of legislators and the public who are now looking for return on this investment.

Subhayamma (1998) found that participants were apprehensive about certain aspects related to taking part in question and answer sessions and commented that inadequate time allotted for interaction had negatively impact on the effectiveness of interaction session.

Though various studies have already been conducted on the impact of teleconferencing, video conferencing but no study has been conducted so far to find out the impact of EduSat on the academic achievement of children of primary grade. This is the first attempt which has been undertaken under DEP-SSA, IGNOU to study the impact of teaching through EduSat on the achievement of children of class III and V in various subjects like Hindi, English, EVS and Mathematics. This endeavor has been made to study comprehensively the academic performance of children under primary grade. This study will be worthwhile to know the effectiveness and efficacy of EduSat for the purpose for which it was experimentally introduced

7.0 STATEMENT OF PROBLEM

A Study on the Effectiveness of EDUSAT Support Network (Sidhi Pilot Project) on Academic Achievement of Children in Primary Grade.

8.0 OBJECTIVES OF THE STUDY

The following objectives have been set forth for the present study.

- To study the effectiveness of EduSat network on the academic achievement of children studying to primary grade (Class III and V)
- To compare the academic achievement of children of ROT schools with that of their counterparts of NON-ROT schools.
- To suggest measures, for further improvement of EduSat supported network for quality elementary education.

9.0 METHODOLOGY

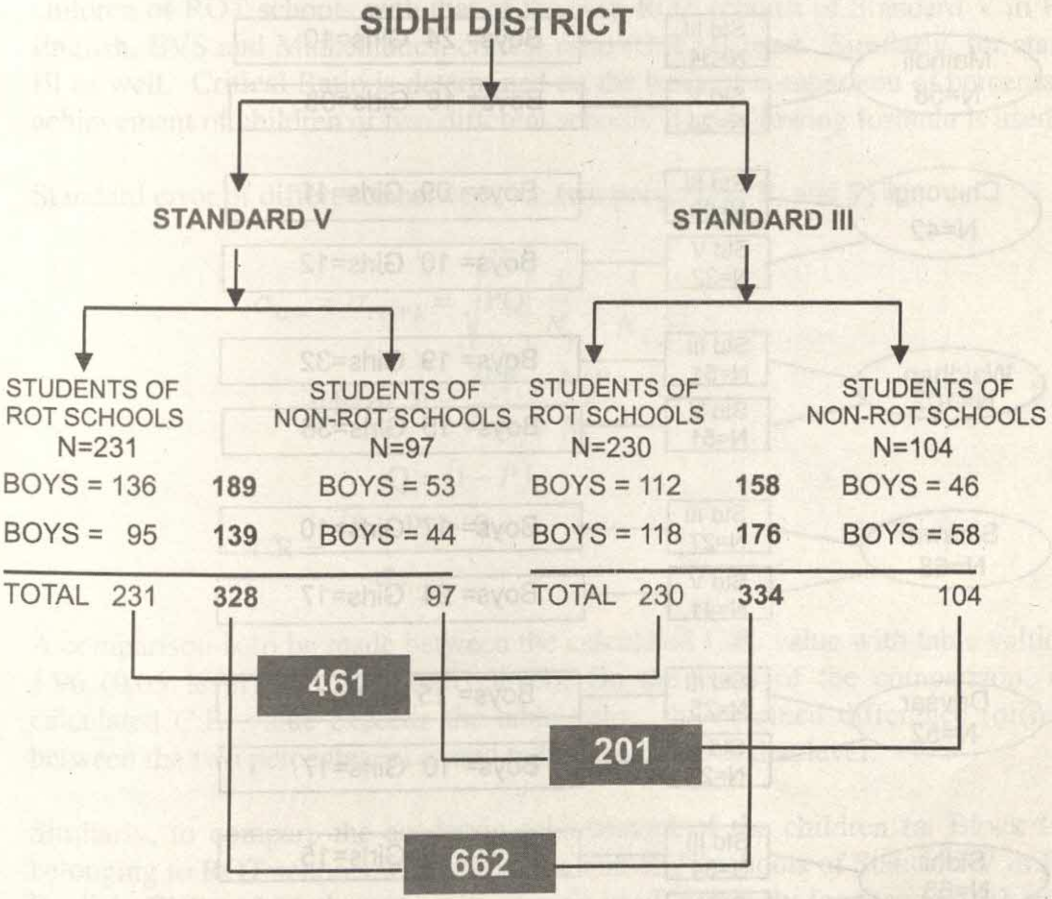
9.1 Population

Population of the study will cover all primary school children of Sidhi district of Madhya Pradesh.

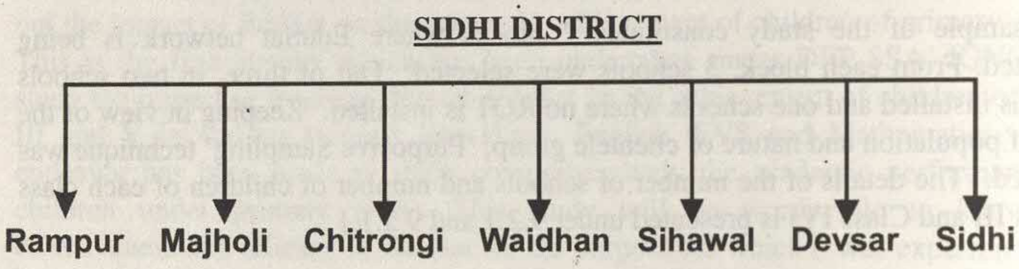
9.2 Sample

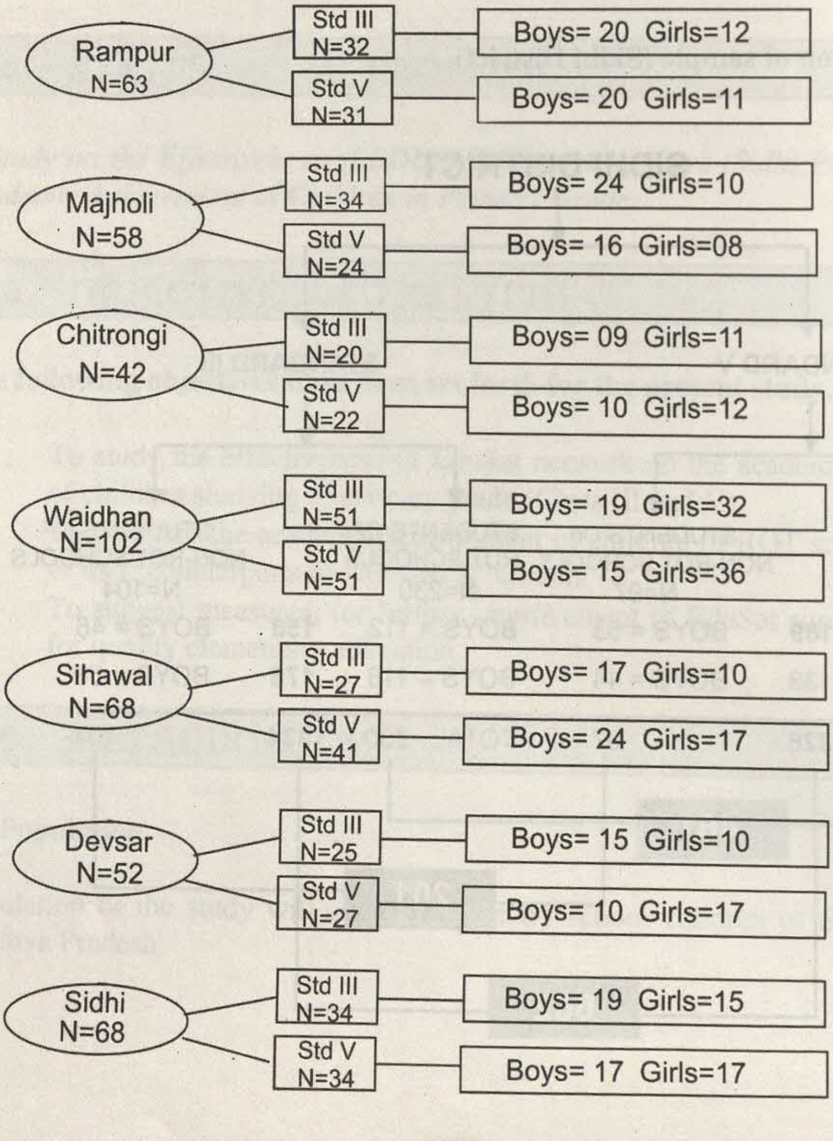
The sample of the study constitutes 7 blocks where EduSat network is being operated. From each block, 3 schools were selected. Out of three, in two schools ROT is installed and one schools where no ROT is installed. Keeping in view of the size of population and nature of clientele group, 'Purposive Sampling' technique was adopted. The details of the number of schools and number of children of each class (Class III and Class IV) is presented under 9.2.1 and 9.2.1.1

9.2.1 Distribution of sample (Sidhi District)



9.2.1.1 Block wise distribution of sample





9.3 Tools

A competency based achievement tests on Hindi, English, EVS and Mathematics were developed particularly for these subjects keeping in view the content taught through EduSat. These tests were used in the present study to collect the relevant data from children of Std. III and Std V.

10.0 ANALYSIS AND INTERPRETATION

In the present study analysis, interpretation and presentation of result have been provided sequentially and systematically. The focus of the study was to assess the effectiveness of EduSat on academic achievement (performance) of children in primary grade of Sidhi district. To compare the academic achievement of the children of ROT schools with that of the Non-ROT schools of Standard V in Hindi, English, EVS and Mathematics, critical ratio (C.R.) is used. Similarly, for standard III as well. Critical Ratio is determined on the basis of comparison of percentage of achievement of children of two different schools. The following formula is used i.e.

Standard error of difference between the two percentage P_1 and P_2 be

$$\sigma_{D\%} = \sigma_{P1-P2} = \sqrt{PQ\left[\frac{1}{N_1} + \frac{1}{N_2}\right]}$$

$$\text{where } P = \frac{N_1 P_1 + N_2 P_2}{N_1 + N_2}$$

$$Q = (1 - P)$$

$$CR = \frac{(P_1 - P_2) - 0}{\sigma_{P1-P2}}$$

A comparison is to be made between the calculated C.R. value with table value, i.e., 1.96 (0.05 level) and 2.58 (0.01 level), On the basis of the comparison, if the calculated C.R. value exceeds the table value, the obtained difference (difference between the two percentages) is said to be significant at that level.

Similarly, to compare the academic achievement of the children (at Block Level) belonging to ROT schools with that of the non-ROT schools of Standard V in Hindi, English, EVS and Mathematics, 't' - test is used. Similarly for Standard III as well. 't' value is determined on the basis of comparison of mean square of achievement of children of two different schools. The following formula is used i.e. Significance difference between the two mean score is obtained by using 't' test

$$S_{ED} = \sigma\sqrt{\left[\frac{1}{N_1}+\frac{1}{N_2}\right]} \text{ where } D = \left|M_1 - M_2\right|$$

$$t = \frac{D}{S_{ED}}$$

On the basis of comparison of calculated't' value with that of table value (at 0.01 level and 0.05 level), the difference between the two means scores(Whether significant at a particular level or not) is determined.

In order to maintain the logical order and for ease of presentation of results and findings, the details of the content have been divided into the following sections

Section A : Analysis and interpretation of the achievement of children (Sidhi district) of Std. V in Hindi, English, EVS, Mathematics and their overall academic achievements.

Section B : Analysis and interpretation of the achievement of children (Rampur, Majholi, Chitrongi, Devsar, Waidhan, Sinhawal and Sidhi Blocks) of Std. V in Hindi, English, EVS, Mathematics and their overall mean academic achievements.

Section C : Analysis and interpretation of the achievement of children (Sidhi district) of Std. III in Hindi, English, EVS, Mathematics and their overall academic achievements

Section D : Analysis and interpretation of the achievement of children (Rampur, Majholi, Chitrongi, Devsar, Waidhan, Sinhawal and Sidhi Blocks) of Std. III in Hindi, English, EVS, Mathematics and their overall mean academic achievements.

10.1 Section A:

Analysis and Interpretation of the Achievement of Children (Sidhi District) of Std. V in Hindi, English, EVS, Mathematics and their Overall Academic Achievement

The means and SDs achievement in Hindi, English, EVS and Mathematics of children, boys and girls and boys and girls together of Standard V studying in ROT and non ROT schools of Sidhi district, in respect of general, SC, ST, OBC categories were calculated. The overall mean and S.D. of all these categories in respect of boys, girls, and boys and girls together were also computed. In order to test the significance of the difference between the means of the respective categories, C.R. values were calculated. The results are presented in Table I, Table 2, Table 3 Table 4 and Table 5.

Table 1: Comparison of Mean Achievement of Children of Standard V belonging to ROT and Non ROT Schools of Sidhi District in Hindi

Sl. No.	Category	Gender	ROT Schools		Non ROT Schools		Diff. in	C.R. value
			Mean	Mean %	Mean	Mean %	Mean %	
1	Gen	Boys	11.35 N=30	45.42	12.56 N=15	50.24	4.82	0.32
		Girls	12.02 N=28	48.09	13.8 N=14	55.3	7.21	0.43
		Boys & Girls	11.69 N=58	46.74	13.18 N=29	52.72	5.98	0.53
2	SC	Boys	11.53 N=20	46.12	13.56 N=18	54.24	8.12	0.50
		Girls	8.23 N=15	32.92	17.27 N=9	69.08	36.16	1.58
		Boys & Girls	9.88 N=35	39.52	15.42 N=27	61.67	22.15	1.74
3	ST	Boys	13.44 N=13	53.75	11.23 N=10	44.9	8.85	0.42
		Girls	12.7 N=12	50.8	17.0 N=4	68.0	17.2	0.59
		Boys & Girls	13.07 N=25	52.28	14.12 N=14	56.46	4.18	0.15
4	OBC	Boys	11.54 N=73	46.15	14.94 N=16	59.76	13.61	0.98
		Girls	9.87 N=40	39.47	14.52 N=17	58.08	18.61	1.29
		Boys & Girls	10.71 N=11	42.82	14.73 N=33	58.92	16.1	1.63
5	All (Gen+SC) + ST+OBC	Boys	11.97 N=13	47.86	13.07 N=53	52.29	4.43	0.55
		Girls	10.71 N=95	42.82	15.65 N=44	62.59	19.77	2.15*
		Boys & Girls	11.34 N=23	45.36	14.36 N=97	57.44	12.08	2.02*

** Significant at .01 Level, * Significant at .05 level.

On examination of the results of the **Table 1**, it is revealed that there is no significant difference between the mean achievement (Hindi) of boys belonging to ROT and NON-ROT schools of Sidhi district.

Mean percentage of boys (Gen + SC + SC + OBC) belonging to ROT schools was 47.86 and that of NON-ROT schools was 52.29. Since the CR value of 0.55 is not significant at 0.05 level, the mean achievement of boys of ROT school and non ROT schools is more or less similar. However, a significant difference is noticed with regard to mean achievement of girls belonging to two types of school as the C.R. value of 2.15 is significant at 05 level. It is worth noting that this difference goes in favour of girls belonging to NON-ROT schools. Similar is the situation with regard to mean achievement of the total sample (i.e. boys and girls taken together) as the mean percentage of children belonging to ROT schools was 45.36 and for NON-ROT schools was 57.44 with a C.R. 2.02.

It may be noted that there is no significant difference between the children belonging to ROT and NON-ROT schools under different sub-groups like General (C.R. = 0.53), Scheduled Caste (C.R. = 1.74). Scheduled Tribes (C.R. = 0.15) and Other Backward Classes (C.R. = 1.63). But in all the above cases the mean percentage achievement of children belonging to non-ROT schools are at the higher side than that of ROT schools. These results indicate that there is need for the effective utilization of EduSat network for improving the academic achievement of children of all these categories.

Table 2: Comparison of Mean Achievement of Children of Standard V Belonging to ROT and NON-ROT Schools of Sidhi District in English

Sl. No.	Category	Gender	ROT Schools		Non ROT Schools		Diff. in Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	9.12 N=30	36.48	12.56 N=15	50.24	13.76	0.88
		Girls	11.99 N=28	47.98	7.54 N=14	30.16	17.82	1.10
		Boys & Girls	10.56 N=58	42.22	10.05 N=29	40.2	2.02	0.17
2	SC	Boys	12.86 N=20	51.44	7.43 N=18	29.73	21.71	1.36

		Girls	8.64 N=15	34.57	8.0 N=9	32.0	2.57	0.13
		Boys & Girls	10.75 N=35	43.0	7.72 N=27	30.86	12.14	0.98
3	ST	Boys	8.63 N=13	35.33	10.43 N=10	41.73	6.4	0.13
		Girls	9.1 N=12	36.4	6.5 N=4	26.0	10.4	1.52
		Boys & Girls	8.72 N=25	34.86	8.46 N=14	33.86	1	0.06
4	OBC	Boys	10.75 N=73	42.98	10.55 N=16	42.2	0.78	0.05
		Girls	11.64 N=40	46.57	9.4 N=17	37.6	8.97	0.62
		Boys & Girls	11.19 N=113	44.78	9.97 N=33	39.9	4.88	0.50
5	All (Gen+SC+ ST +OBC)	Boys	10.39 N=136	41.56	10.24 N=53	40.97	0.59	0.07
		Girls	10.34 N=95	41.37	7.86 N=44	31.44	9.93	1.13
		Boys & Girls	10.37 N=231	41.46	9.05 N=97	36.2	5.26	0.89

** Significant at .01 Level, * Significant at .05 level.

On the basis of the perusal of the results presented in Table 2 it is revealed that there is no significant difference between the mean achievement of children in English at Std. V belonging to ROT and non-ROT schools of Sidhi district of Madhya Pradesh. The means of the achievement of children (Boys, Girls, and Boys+Girls together) belonging to ROT schools are higher than that of NON-ROT schools. Though the differences are not statistically significant, but still it reflects the efficacy of EDUSAT Programme in improving the academic achievement in English of children. Similar is the situation with regard to certain sub-groups like General Girls, General (Boys and Girls), SC Boys, SC Girls, SC (Boys and Girls), ST Girls, ST (Boys and Girls), OBC Girls and OBC (Boys and Girls).

Table 3: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sidhi District in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Diff. in Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	13.02 N=30	52.08	13.5 N=15	53.6	1.52	0.09
		Girls	13.29 N=28	53.14	8.06 N=14	32.24	20.9	1.28

		Boys & Girls	13.16 N=58	52.62	10.78 N=29	43.12	9.6	0.83
2	SC	Boys	11.84 N=20	47.36	11.3 N=18	47.33	0.03	0.00
		Girls	9.92 N=15	39.67	16.0 N=9	64.0	24.33	1.15
		Boys & Girls	10.88 N=35	43.52	13.65 N=27	54.6	11.08	0.86
3	ST	Boys	11.47 N=13	45.87	14.05 N=10	56.2	10.33	0.49
		Girls	12.6 N=12	50.4	12.25 N=4	49.0	1.4	0.05
		Boys & Girls	12.04 N=25	48.14	13.15 N=14	52.6	4.46	0.27
4	OBC	Boys	14.59 N=73	58.39	14.25 N=16	7.0	51.39	0.10
		Girls	14.22 N=40	56.88	9.25 N=17	37.0	19.88	1.37
		Boys & Girls	14.41 N=113	57.62	11.75 N=33	47.0	10.62	1.08
5	All (Gen+SC+ ST +OBC)	Boys	12.73 N=136	50.92	13.28 N=53	53.1	2.18	0.27
		Girls	12.50 N=95	50.03	11.39 N=44	45.56	4.47	0.01
		Boys & Girls	12.62 N=231	50.46	12.34 N=97	49.34	1.12	0.19

** Significant at .01 Level, * Significant at .05 level.

On the basis of the results presented in the **Table 3**, it is revealed that mean achievement percentage of Girls (M% = 50.03) and Boys and Girls (M% = 50.46) belonging to ROT schools is more than that of their corresponding counterparts belonging to non-ROT schools in EVS of Std. V; whereas in case of non-ROT schools it goes in favour of boys. In none of the cases the mean achievement differences are statistically significant. Similarly in different sub-groups, the means of achievement of children belonging to ROT schools are at the higher side than their non-ROT counterparts like General Girls (M% = 53.14), General Boys and Girls (M% = 52.62). ST Girls (M% = 50.4), OBC Boys (M% = 58.39), OBC Girls (M% = 56.88) and OBC Boys and Girls (M% = 57.62). These results suggest that though EDUSAT programme has considerably improved the achievement level of children, but more efforts are needed to have an appreciable impact of this technology for enhancing the level of achievement of children.

Table 4: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sidhi District in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Diff. in Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	11.79 N=30	47.19	12.86 N=15	51.44	4.25	0.27
		Girls	13.74 N=28	54.96	8.14 N=14	32.56	22.4	1.61
		Boys & Girls	12.76 N=58	51.06	10.5 N=29	42.0	9.06	0.01
2	SC	Boys	10.41 N=20	41.64	12.28 N=18	49.12	7.48	0.46
		Girls	10.21 N=15	40.82	10.96 N=9	43.84	3.02	0.15
		Boys & Girls	10.31 N=35	41.24	11.62 N=27	46.48	5.24	0.41
3	ST	Boys	17.42 N=13	49.67	8.83 N=10	35.3	14.37	0.69
		Girls	13.5 N=12	54.0	12.25 N=4	49.0	5.0	0.17
		Boys & Girls	12.96 N=25	51.84	10.54 N=14	42.16	9.68	0.58
4	OBC	Boys	11.82 N=73	47.29	9.82 N=16	39.27	8.02	0.59
		Girls	12.35 N=40	49.39	9.1 N=17	36.73	12.66	0.87
		Boys & Girls	12.09 N=113	48.34	9.51 N=33	38.04	10.3	1.04
5	All (Gen+SC + ST +OBC)	Boys	11.61 N=136	46.44	10.95 N=53	43.79	2.65	0.44
		Girls	12.45 N=95	49.0	10.11 N=44	40.45	8.55	0.93
		Boys & Girls	12.03 N=231	48.12	10.53 N=97	42.12	6.0	1.01

** Significant at .01 Level, * Significant at .05 level.

Table 4 presents results in respect of the level of achievements in mathematics of children studying in class V of ROT and non-ROT schools. The results indicate that the mean achievement percentage of children in Maths belonging to ROT schools of Sidhi district are higher than that of their counterparts belonging to non-ROT schools. The differences though not significant, are in favour of children studying in ROT schools. Similar is the situation with regard to other sub groups, viz., General

Boys (M%= 54.96), General Boys and Girls (M%= 51.06), ST Boys (M%= 49.67), ST Girls (M%= 54.0), OBC Boys (M%= 47.29) and OBC Girls (M%= 49.39).

From these results, it may be inferred that though the implementation of EDUSAT has brought some changes in the perception of teachers in the Sidhi district of Madhya Pradesh, but a lot yet is to be done to improve the effectiveness of this technology, so as to get desired results in improving the achievement level in mathematics of children. In none of the groups the difference in achievement levels was found to be significant.

Table 5: Comparison of Mean Academic Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sidhi District

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Diff. in Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	11.33 N=30	45.3	12.87 N=15	51.48	6.18	0.39
		Girls	12.76 N=28	51.04	9.38 N=14	37.54	13.5	0.84
		Boys & Girls	12.05 N=58	48.18	11.13 N=29	44.5	3.68	0.33
2	SC	Boys	11.66 N=20	46.64	11.14 N=18	44.57	2.03	0.13
		Girls	9.25 N=15	37.0	13.06 N=9	52.23	15.23	0.01
		Boys & Girls	10.46 N=35	41.86	12.10 N=27	48.0	6.14	0.48
3	ST	Boys	11.54 N=13	46.16	11.14 N=10	44.54	1.62	0.08
		Girls	11.97 N=12	47.9	12.0 N=4	48.0	0.1	0.01
		Boys & Girls	11.76 N=25	47.02	11.57 N=14	46.28	0.74	0.02
4	OBC	Boys	12.18 N=73	48.7	13.39 N=16	49.56	.86	0.06
		Girls	12.02 N=40	48.08	10.56 N=17	42.27	5.81	0.64
		Boys & Girls	12.1 N=113	48.4	11.97 N=33	47.9	0.5	0.05
5	All (Gen+SC + ST	Boys	11.68 N=136	46.71	12.14 N=53	48.54	1.83	0.22
		Girls	11.5 N=95	46.0	11.25 N=44	45.0	1.0	0.10

	+OBC)	Boys & Girls	11.59 N=231	46.36	11.69 N=97	46.78	0.42	0.07

The results presented in **Table 5,** it may be revealed that the average overall achievement levels of children belonging to ROT and non-ROT schools of Sidhi district are nearly at the same level i.e. in case of children belonging to ROT schools M% = 46.36 whereas in case of non-ROT schools, it was 46.78. These results indicate that EduSat technology needs more quality inputs in course content and instructional strategy.

In many cases the mean achievement percentages of certain subgroups belonging to ROT schools are higher than that of their counterparts belonging to non-ROT schools, but those differences are not significant. This shows the mixed impact of EDUSAT technology on the academic achievement of children in various subjects. Again it was also noticed that in few cases the mean achievement of children belonging to non-ROT schools are higher than that of their counterparts belonging to ROT schools like General Boys (M%=45.3 in ROT schools and 51.48% in non ROT Schools). SC Girls (M%=37.0 in ROT schools; and 52.23 in non-ROT schools), ST Girls (M%= 47.9 in ROT schools; and 48.0 in non-ROT schools), and OBC Boys (M%= 48.7 in ROT schools and 49.56 in non-ROT schools). In view of these results, it is essential to make a thorough analysis of the programme of EDUSAT for deriving its maximum benefit to enhance the learning of children.

10.2 Section B:

Analysis and Interpretation of the Achievement of Children (Rampur, Majholi, Chitrongi, Devsar, Waidhan, Sinhawal and Sidhi Blocks) of Std. V in Hindi, English, EVS, Mathematics and their Overall Mean Academic Achievements.

The means and SDs of achievement of children of Standard V for various categories in Hindi, English, EVS, Mathematics and their overall mean academic achievement in respect of ROT schools and non-ROT schools of Rampur, Majholi, Chitrongi, Devsar, Waidhan, Sinhawal and Sidhi Blocks were computed. The significance of the difference between Means was tested for each category, viz., General, SC, ST, OBC and all categorie combined. The results are presented in the Table 6 to 40.

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Table 6: Comparison of Mean Achievement in Hindi of Children of Standard V belonging to ROT and NON-ROT Schools of Rampur Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	"t" value
			Mean	SD	Mean	SD		
1	Gen	Boys	12.25 N=8	6.13	10.8 N=5	4.76	1.45	0.45
		Girls	14.67 N=6	5.24	11.8 N=5	2.17	2.87	1.14
		Boys & Girls	13.46 N=14	5.69	11.3 N=10	4.76	8.70	3.94**
2	SC	Boys	10.4 N=5	4.72	11.2 N=5	4.21	0.80	0.28
		Girls	9.0 N=2	1.41	-	-	-	-
		Boys & Girls	9.70 N=7	3.96	11.2 N=5	4.21	1.50	0.63
4	OBC	Boys	20.14 N=7	2.34	-	-		
		Girls	18.5 N=4	3.0	-	-		
		Boys & Girls	19.32 N=11	2.34	-	-		
5	All (Gen+SC + ST +OBC)	Boys	14.26 N=20	6.16	11.0 N=10	4.24	3.26	1.50
		Girls	14.06 N=12	5.12	11.8 N=5	5.19	2.26	0.83
		Boys & Girls	14.16 N=32	5.72	11.3 N=15	3.61	2.86	1.76

** Significant at .01 Level, * Significant at .05 level.

Table 6 shows the mean achievement scores of children of Standard V in the subject Hindi belonging to Rampur Block of Sidhi district. On examination of this Table, it is found that there is no significant difference between the achievement of children belonging to ROT and non-ROT schools. But the mean achievement score of children belonging to ROT schools are higher than that of non-ROT schools (M=14.16 for children belonging to ROT school and M=3.61 for children belonging to NON -ROT schools).

Similarly in case of Boys M=14.26 in ROT schools and 4.24 in Non-ROT schools, in case of Girls M=14.06 for ROT schools and 5.19 for NON-ROT schools. In case of sub-groups like General, SC and ST, the difference goes in favour of children belonging to ROT schools. This shows the effectiveness of EDUSAT in enhancing the achievement in Hindi of children belonging to Rampur Block.

Table 7: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Rampur Block in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	"t" value
			Mean	SD	Mean	SD		
1	Gen	Boys	12.75 N=8	7.01	11.0 N=5	1.22	1.75	0.54
		Girls	9.67 N=6	5.72	10.6 N=5	3.13	0.93	0.32
		Boys & Girls	11.21 N=14	6.44	10.8 N=10	2.25	0.41	0.19
2	SC	Boys	10.2 N=5	2.41	10.6 N=5	2.61	0.40	0.25
		Girls	11.0 N=2	2.83	-	-	-	-
		Boys & Girls	10.6 N=7	2.91	10.6 N=5	2.61	0.0	0.0
4	OBC	Boys	20.71 N=7	0.76	-	-	-	
		Girls	20.25 N=4	0.5	-	-	-	
		Boys & Girls	20.48 N=11	0.68				
5	All (Gen+SC + ST +OBC)	Boys	14.55 N=20	6.69	10.8 N=10	1.68	3.75	1.34
		Girls	13.64 N=12	6.50	10.6 N=5	3.13	3.04	0.98
		Boys & Girls	14.09 N=32	6.56	10.7 N=15	2.15	3.39	1.13

On perusal of the results of the **Table 7**, it is found that mean achievement in Hindi of Boys, Girls and Boys and Girls belonging to ROT schools of Rampur Block in English is 14.5, 13.64 and 14.09 respectively whereas the mean achievement of boys, girls, and boys & girls belonging to non-ROT school is 10.8, 10.6 and 10.7 respectively. This clearly indicates that mean achievement score of children belonging to ROT schools are at higher side than those of non-ROT schools though the difference is not significant. Similar is the situation with regard to sub-groups like General Boys, General Boys and Girls. This clearly indicates that the interest of children in watching EduSat porgramme has helped them in better achievement in English. However, keeping in view the needs and demand of children, the programme needs to be improved further for facilitating their learning

Table 8:Comparison of Mean Achievement in EVS of Children of Standard V belonging to ROT and NON-ROT Schools of Rampur Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	"t" value
			Mean	SD	Mean	SD		
1	Gen	Boys	12.37 N=8	6.82	12.2 N=5	1.30	0.17	0.05
		Girls	10.17 N=6	4.75	10.8 N=5	1.30	0.63	0.28
		Boys & Girls	11.27 N=14	5.73	11.5 N=10	1.43	0.23	0.12
2	SC	Boys	8.80 N=5	2.95	12.4 N=5	0.89	3.60	1.90
		Girls	9.0 N=2	2.83	-	-	-	-
		Boys & Girls	8.9 N=7	2.67	12.4 N=5	0.89	3.50	2.80**
4	OBC	Boys	21.68 N=7	0.76	-	-	-	-
		Girls	18.75 N=4	5.25	-	-	-	-
		Boys & Girls	20.02 N=11	3.33	-	-	-	-
5	All (Gen+SC + ST +OBC)	Boys	14.28 N=20	6.82	12.3 N=10	1.06	1.98	0.90
		Girls	12.64 N=12	6.15	10.8 N=5	1.30	1.84	0.65
		Boys & Girls	13.39 N=32	6.47	11.9 N=15	1.32	1.49	0.30

** Significant at .01 Level, * Significant at .05 level

A perusal of the **Table 8** shows a peculiar picture with regard to achievement in EVS of children belonging to ROT schools in certain sub groups in Rampur Block. For example, with regard to comparison of students belonging to general category ROT and non-ROT schools, the mean achievement scores of boys, girls and boys and girls are nearly of the same magnitude with a difference of 0.17, 0.63 and 0.23 respectively which is not significant. In case of SC, the mean achievement score of children belonging to non-ROT schools is on the higher side though the difference is not statistically significant.

The overall analysis of achievement of children in EVS belonging to Rampur Block shows that achievement of children of ROT schools is higher in case of both boys and girls. But this difference is also not significant at any level. These results suggest that a lot of efforts are required to enhance the achievement level of children in teaching EVS through EDUSAT programme.

Table 9: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Rampur Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	"t" value
			Mean	SD	Mean	SD		
1	Gen	Boys	13.25 N=8	6.96	18.8 N=5	1.92	5.55	1.72
		Girls	11.33 N=6	6.15	21.4 N=5	1.34	10.07	3.56**
		Boys & Girls	12.29 N=14	6.45	20.1 N=10	2.08	7.81	3.67**
2	SC	Boys	11.3 N=5	1.64	20.2 N=5	3.49	9.00	5.23**
		Girls	10.5 N=2	2.83	-	-	-	-
		Boys & Girls	10.89 N=7	2.83	20.2 N=5	3.49	9.31	5.12**
4	OBC	Boys	22.14 N=7	0.69	-	-	-	-
		Girls	22.0 N=4	0.82	-	-	-	-
		Boys & Girls	22.07 N=11	0.70	-	-	-	-
5	All (Gen+SC + ST +OBC)	Boys	15.53 N=20	6.46	19.5 N=10	2.76	3.97	1.85
		Girls	14.61 N=12	6.79	21.4 N=5	1.34	6.79	2.18*
		Boys & Girls	15.08 N=32	2.50	20.45 N= 15	5.12	4.37	2.96**

** Significant at .01 level, * Significant at .05 level

On the basis of data presented in the Table 9, it is evident that there is a significant difference between the mean achievement of children of standard V of ROT and non-ROT schools in the subject of mathematics. It is noteworthy that the difference is in favour of children belonging to non-ROT schools of Rampur block. The mean achievement of General Girls is 11.33 of ROT schools and that non-ROT schools is 20.1 with 't' value of 3.67. In case of SC Boys, mean is 11.2 for ROT school and for non ROT schools; the mean is 20.2 with't' value of 5.23.

Similar is the case with regard to overall achievement analysis which goes in favour of children belonging to non-ROT schools i.e. the difference in mean achievement score in mathematics is 3.97 for boys, 6.79 for girls and 5.12 for Boys & Girls. The difference is significant in case girls with 't' value = 2.18 and also with 't' value = 2.96

The above results suggest that EDUSAT transmission in respect of mathematics content instruction need more academic inputs. Efforts must be undertaken for systematic content development in mathematics with proper orientation to tele-teachers.

Table 10: Comparison of Mean Academic Achievement of Children of Standard V Belonging to ROT and NON-ROT Schools of Rampur Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Difference in Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	12.66 N=8	50.64	13.2 N=5	52.8	2.16	0.08
		Girls	11.46 N=6	45.84	13.65 N=5	54.6	8.76	0.28
		Boys & Girls	12.06 N=14	48.24	13.43 N=10	53.7	5.46	0.26
2	SC	Boys	10.15 N=5	40.6	13.6 N=5	54.4	13.8	0.44
		Girls	9.88 N=2	39.58	-	-	-	-
		Boys & Girls	10.02 N=7	40.06	13.6 N=5	54.4	14.34	0.94
4	OBC	Boys	21.16 N=7	84.67	-	-	-	-
		Girls	19.87 N=4	79.5	-	-	-	-
		Boys & Girls	20.52 N=11	82.06	-	-	-	-
5	All (Gen+SC+ ST +OBC)	Boys	14.66 N=20	58.63	13.4 N=10	53.6	5.03	0.26
		Girls	13.77 N=12	55.08	13.65 N=5	54.6	0.48	0.02
		Boys & Girls	14.22 N=32	56.86	13.53 N=15	54.1	2.76	0.18

The statistical data presented in the **Table 10** shows that there exists a difference in the over all academic achievement of children belonging to ROT and non-ROT schools of Rampur block. This difference, though statistically not significant, is in favour of children belonging to ROT schools. But as far as the achievement of Girls is concerned, the difference is even less than one.

With regard to certain sub-groups like Gen Boys, Gen Girls, SC Boys and SC Girls the mean academic achievement of these children belonging to non-ROT schools are higher than that of their counterparts of ROT schools. These results indicate that EduSat technology needs certain modifications in the presentation of course content, its sequencing followed by illustrative explanations so that there is considerable improvement in the achievement of children belonging to various categories.

Table 11: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Majooli Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	10.0 N=2	2.83	2.5 N=2	0.71	7.5	3.64**
		Girls	-	-	0.0 N=2	0.0	-	-
		Boys & Girls	10.0 N=2	2.83	1.25 N=4	1.50	8.75	5.27**
2	SC	Boys	-	-	2.5 N=2	0.71	-	-
		Girls			0.0 N=2	0.0	-	-
		Boys & Girls	-	-	1.25 N=4	1.50	-	-
3	ST	Boys	5.5 N=02	3.53	-	-	-	-
		Girls	10.5 N=02	0.71	-	-	-	-
		Boys & Girls	8.0 N=4	3.56	-	-	-	-
4	OBC	Boys	8.2 N=20	4.56	2.7 N=3	1.53	5.50	2.02*
		Girls	7.25 N=8	3.84	3.5 N=2	0.71	3.75	1.32
		Boys & Girls	7.33 N=28	4.26	3.1 N=5	1.22	4.23	2.16*
5	All (Gen+SC+ ST +OBC)	Boys	7.9 N=24	3.86	2.57 N=7	1.28	5.33	3.56**
		Girls	8.88 N=10	3.52	1.17 N=6	1.83	7.71	4.94**

		Boys & Girls	5.58 N=34	3.57	1.7 N=13	1.56	3.88	3.77**

** Significant at .01 Level, * Significant at .05 level.

It is observed from the **Table 11** that there is a significant difference between the academic achievement of children belonging to ROT and non-ROT schools of Majholi Block in the subject Hindi. The differences are in favour of children (both boys and girls separately as well) belonging to ROT schools. This clearly shows the efficacy of EDUSAT with regard to improvement of academic achievement in Hindi. Similar is the situation with regard to certain sub-groups Gen Boys, Gen (Boys + Girls), OBC Boys and OBC (Boys and Girls) as well. But in case of OBC Girls difference though not significant, goes in favour of children belonging to ROT schools.

On overall analysis, we can predict that EDUSAT transmission is quite fruitful in enhancing the academic achievement of children in Hindi. The results revealed that in all cases, the differences are significant except OBC Girls.

Table 12: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sidhi District in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	7.25 N=2	9.19	3.0 N=2	1.41	4.25	0.65
		Girls	-	-	0.0 N=2	0.0	-	
		Boys & Girls	7.25 N=2	9.19	1.5 N=4	1.91	5.75	1.36
2	SC	Boys	-	-	0.5 N=2	0.71	-	-
		Girls	-	--	0.0 N=2	0.0	-	-
		Boys & Girls	-	-	0.25 N=4	0.44		
3	ST	Boys	3.5 N=2	2.12	-	-	-	-
		Girls	4.5 N=2	0.71	-	-	-	-
		Boys & Girls	4.0 N=4	1.41	-	-	-	-
4	OBC	Boys	9.9 N=20	5.63	2.7 N=3	2.31	7.20	2.15*

		Girls	8.13 N=8	4.82	0.0 N=2	0.0	8.13	2.28*
		Boys & Girls	9.01 N=28	3.94	1.4 N=5	2.11	7.61	6.92**
5	All (Gen+SC+ ST +OBC)	Boys	6.89 N=24	4.58	2.07 N=7	1.86	4.82	2.71**
		Girls	6.32 N=10	4.94	0.0 N=6	0.0	6.32	3.09**
		Boys & Girls	6.75 N=34	5.04	1.7 N=13	1.72	5.05	3.51**

** Significant at .01 Level,* Significant at .05 level.

On perusal of the **Table 12**, it is found that the academic achievement of children in English belonging to ROT schools of Majholi block is higher than that of their counter part belonging to non-ROT schools.The differences are statistically significant and in favour of children belonging to ROT schools, with't' value. =2.15 (OBC Boys), **'t'** value.=2.28 (OBC Girls) and 't' value =6.92 (OBC Boys and Girls), Similar are the results with regard to difference in achievement of Boys ('t' value.=2.71), Girls ('t' value. =3.09) and Boys and Girls ('t' value. =3.51). In all the above cases the differences are in favour of children belonging to ROT schools.

With regard to achievement of Gen Boys, the mean value of children belonging to ROT schools (M=9.19) is higher than that of their counterpart of non-ROT schools (M=1.41), but the mean difference of 4.1 is not statistically significant.

Table 13: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sidhi District in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	15.0 N=2	9.89	2.5 N=2	0.71	12.25	1.75
		Girls	-	-	0.0 N=2	0.0	-	-
		Boys & Girls	15.0 N=2	9.89	1.25 N=4	1.50	13.75	3.10**
2	SC	Boys	-	-	2.5 N=2	0.71	-	-
		Girls	-	-	2.0 N=2	1.41	-	--
		Boys & Girls	-	-	2.25 N=4	0.96	-	-

3	ST	Boys	3.5 N=2	4.95	-	-	-	-
		Girls	11.5 N=2	2.12	-	-	-	-
		Boys & Girls	7.5 N=4	5.09	-	-	-	-
4	OBC	Boys	11.15 N=20	7.43	2.3 N=3	0.58	8.85	2.02*
		Girls	10.0 N=8	8.96	1.0 N=2	0.0	9.00	1.36
		Boys & Girls	10.58 N=28	7.11	1.7 N=5	0.84	8.88	2.75**
5	All (Gen+SC+ ST +OBC)	Boys	10.0 N=24	6.21	2.43 N=7	0.53	7.57	3.19**
		Girls	10.75 N=10	8.01	1.5 N=6	1.09	9.25	2.78**
		Boys & Girls	11.03 N=34	7.14	1.7 N=13	1.09	9.94	4.94**

** Significant at .01 Level, * Significant at .05 level.

On the basis of the results presented in the **Table 13**, it is found that the mean achievement children belonging to ROT schools of Majholi block in EVS is higher than that of their counterparts belonging to non-ROT schools. This difference is also statistically significant with 't' value. = 3.19 for Boys, 't' value.= 2.78 for girls and 't' value.= 4.94 for (Boys and Girls). This highlights the efficacy of EDUSAT transmission programme in enhancing the achievement in the subject of EVS. Similar is the situation with regard to certain sub-groups like Gen (Boys + Girls, OBC Boys; and OBC Boys + Girls, where the differences are in favour of children belonging to ROT schools. This is a positive and encouraging indication with regard to impact of EDUSAT on academic achievement in EVS of children.

Table 14: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Majholi Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	10.0 N=2	7.07	1.0 N=2	1.41	9.00	1.77
		Girls	-	-	0.5 N=2	0.71	-	-
		Boys & Girls	10.0 N=2	7.07	0.75 N=4	0.96	9.25	2.95**
2	SC	Boys	-	-	0.5 N=2	0.71	-	-

		Girls	-	-	1.0 N=2	0.0	-	-
		Boys & Girls	-	-	0.75 N=4	0.50	-	-
3	ST	Boys	4.5 N=2	2.12	-	-	-	-
		Girls	9.5 N=2	2.12	-	-	-	-
		Boys & Girls	7.0 N=4	3.37	-	-	-	-
4	OBC	Boys	7.01 N=20	6.17	0.3 N=3	0.58	6.71	1.84
		Girls	8.75 N=8	4.80	2.5 N=2	2.12	6.25	1.74
		Boys & Girls	7.88 N=28	5.78	1.4 N=5	1.64	6.48	2.46*
5	All (Gen+SC+ ST +OBC)	Boys	7.17 N=24	6.25	0.6 N=7	0.78	6.57	2.76**
		Girls	9.13 N=10	4.46	1.33 N=6	1.37	7.8	4.13**
		Boys & Girls	8.29 N=34	5.10	0.7 N=13	1.12	7.59	4.80**

** Significant at .01 Level, * Significant at .05 level.

On examination of **Table 14**, it is found that there is a significant difference between the academic achievement in mathematics of children belonging to ROT and non-ROT schools in Majholi block of Sidhi district. Achievement of children belonging to ROT blocks is on the higher side than that of their counterparts of non-ROT schools. This difference is also statistically significant with 't' value. = 2.76 for achievement of Boys, 't' value. = 4.13 for Girls and 't' value. = 4.80 for (boys and girls). Similar is the situation with regard to achievement of children belonging to Gen (Boys and Girls) with 't' value. =2.95 and OBC Boys and Girls with 't' value. =2.46. It clearly shows the efficacy of technology for improving the achievement level in mathematics of children.

Table 15: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Majholi Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Difference In Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	10.56 N=2	42.25	2.25 N=2	9.00	33.25	0.76
		Girls	-	-	0.5 N=2	2.0	-	-

		Boys & Girls	10.56 N=2	42.25	1.38 N=4	5.5	36.75	1.02
2	SC	Boys	-	-	2.63 N=2	10.5	-	-
		Girls	-	-	0.75 N=2	3.0	-	-
		Boys & Girls	-	-	1.69 N=4	6.76	-	-
3	ST	Boys	4.25 N=2	17.0	-	-	-	-
		Girls	9.0 N=2	36.0	-	-	-	-
		Boys & Girls	6.63 N=04	26.5	-	-	-	-
4	OBC	Boys	9.07 N=20	36.26	2.0 N=3	8.0	28.26	1.45
		Girls	8.53 N=8	34.13	1.75 N=2	7.0	27.13	0.76
		Boys & Girls	6.63 N=04	26.5	1.88 N=5	7.5	19.00	1.23
5	All (Gen+SC+ ST +OBC)	Boys	7.96 N=24	31.84	2.38 N=7	9.51	22.33	1.17
		Girls	8.77 N=10	35.06	1.0 N=6	4.00	31.06	1.84
		Boys & Girls	8.36 N=34	33.46	1.69 N=13	6.76	26.7	1.86

It is revealed from the **Table 15** that over all mean academic achievement and mean percentage of children belonging to ROT schools are higher than those of their counterparts belonging to non-ROT schools. But this difference is statistically not significant. Similar is the situation with regard to certain sub groups as well. It may be concluded that teaching through EDUSAT has been able to bring some improvement in overall achievement level of children at primary level. The technology needs further improvement in the content communication of the subjects in the educational transmission through EDUSAT so as to bring a significant change in the performance and securing outcome of children.

Table 16: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Chitrongi Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	7.75 N=4	2.5	-	-	-	-
		Girls	4.29 N=7	1.11	15.0 N=2	1.41	10.71	11.52**
		Boys & Girls	6.02 N=11	2.38	15.0 N=2	1.41	8.98	5.07**
2	SC	Boys	-	-	8.3 N=4	4.27	-	-
		Girls	-	-	-	-	-	-
		Boys & Girls	-	-	8.3 N=4	4.27	-	-
3	ST	Boys	6.0 N=3	2.65	8.6 N=3	0.58	2.60	1.66
		Girls	9.0 N=2	5.66	-	-	-	-
		Boys & Girls	7.5 N=5	3.76	8.6 N=3	0.58	1.10	0.49
4	OBC	Boys	9.5 N=2	2.12	8.0 N=3	1.73	1.50	0.88
		Girls	7.5 N=2	0.71	12.0 N=2	0.0	4.50	9.00**
		Boys & Girls	8.5 N=4	1.73	10.0 N=5	2.51	1.50	1.01
5	All (Gen+SC+ ST +OBC)	Boys	7.75 N=9	2.35	8.3 N=10	2.63	0.55	0.46
		Girls	6.93 N=11	2.87	13.5 N=4	1.91	6.57	4.21**
		Boys & Girls	7.34 N=20	2.82	10.51 N=14	3.40	3.17	2.96**

** Significant at .01 Level, * Significant at .05 level.

On the basis of the perusal of the **Table 16,** it is noticed that academic achievement (Hindi) of children belonging to non-ROT schools of Chitrongi block is at the higher side than that of their counterparts belonging to ROT schools. These differences are statistically significant and in favour of children belonging to non-ROT schools in case of achievement of girls with 't' value. = 4.21, Boys and Girls with 't' value.

=2.96, OBC Boys and Girls with t = 9.00, Gen (Girls) with 't' value. =11.52 and Gen (Boys and Girls) with 't' value. = 5.07.

In all other cases, though the difference is not significant, the differences are in favour of children belonging to non-ROT schools as well. These findings are not in conformity with the results of other blocks in which it has been found that the achievement of the children of ROT schools is higher in comparison to children of non-ROT schools.

Table 17: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sidhi District in Hindi

S. No .	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	9.25 N=4	2.22	-	-	-	-
		Girls	7.14 N=7	1.77	0.0 N=2	0.0	7.14	5.47**
		Boys & Girls	8.19 N=11	2.12	0.0 N=4	0.0	-	-
2	SC	Boys	-	-	0.0 N=4	0.0	-	-
		Boys & Girls	-	-	- N=4	-	-	-
3	ST	Boys	10.67	1.53	0.0 N=3	0.0	10.67	12.12**
		Girls	4.0 N=2	5.66	-	-	-	-
		Boys & Girls	7.34 N=5	4.74	0.0 N=3	0.0	7.34	2.59**
4	OBC	Boys	14.5 N=2	0.71	0.0 N=3	0.0	14.5	38.15**
		Girls	10.5 N=2	2.12	0.0 N=2	0.0	10.5	7.00**
		Boys & Girls	12.5 N=4	2.65	0.0 N=5	0.0	12.5	18.66**
5	All (Gen+SC + ST +OBC)	Boys	11.47 N=9	267	0.0 N=10	0.0	11.47	13.65**
		Girls	7.21 N=11	8.12	0.0 N=4	0.0	7.21	4.53**
		Boys & Girls	9.34 N=20	3.42	0.0 N=14	0.0	9.34	10.15**

** Significant at .01 Level, * Significant at .05 level.

It is revealed from **Table 17** that academic achievement in English of children belonging to ROT schools is higher than that of their counterparts in Chitrongi block. Children belonging to non-ROT schools have not been able to score a single digit in English, whereas the children of ROT schools scored nearly 10 or more in the same subject (English). It reflects the effectiveness of the EDUSAT transmission with regard to teaching and learning of English and also its thrust to motivate children to learn the foreign language. Mean achievement of children belonging to ROT schools is better than that of their non-ROT counter parts in English as the teaching was supplemented by EDUSAT transmission.

Table 18: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools Chitrongi Block in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	10.0 N=4	1.15	-	-	-	-
		Girls	8.71 N=7	4.19	6.5 N=2	0.71	2.21	0.71
		Boys & Girls	9.36 N=11	3.37	6.5 N=2	0.71	2.86	1.16
2	SC	Boys	-	-	7.8 N=4	1.71	-	-
		Boys & Girls	-	-	7.8 N=4	1.71	-	-
3	ST	Boys	16.0 N=3	2.65	7.7 N=3	3.86	8.30	3.07**
		Girls	10.5 N=2	0.71	-	-	-	-
		Boys & Girls	13.25 N=5	3.56	7.7 N=3	3.86	5.55	2.08*
4	OBC	Boys	15.5 N=2	7.78	10.0 N=3	0.0	5.50	1.34
		Girls	13.0 N=2	7.78	10.0 N=3	0.0	5.50	1.34
		Boys & Girls	13.0 N=2	1.41	4.5 N=2	2.12	8.50	4.72**
5	All (Gen+SC+ ST +OBC)	Boys	18.83 N=9	4.38	8.5 N=10	1.51	5.33	3.63**
		Girls	10.74 N=11	3.71	5.5 N=4	1.73	5.24	1.96*
		Boys & Girls	12.29 N=20	4.28	7.3 N=14	2.03	4.99	4.06**

** Significant at .01 Level, * Significant at .05 level.

Table 18 presents the results in respect of the mean academic achievement of children of class V in EVS belonging to ROT and non-ROT schools of Chitrongi block. The mean achievement scores of children belonging to ROT schools are higher in comparison to that of their counterparts of non-ROT schools. The difference in achievement in EVS is also found to be significant between the two groups of children and is in favour of children except general girls belonging to ROT schools. This provides a clear evidence of the impact of EDUSAT in improving the achievement of children in EVS.

Table 19: Comparison of Mean Achievement of Children of Standard V Belonging to ROT and NON-ROT Schools Chitrongi Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	6.0 N=4	0.84	-	-	-	-
		Girls	7.43 N=7	1.51	2.0 N=2	0.0	5.43	4.85**
		Boys & Girls	6.72 N=11	1.44	2.0 N=2	0.0	4.72	1.12
2	SC	Boys	-	-	2.3 N=4	0.5	-	-
		Boys & Girls	-	-	2.3 N=4	0.5	-	-
3	ST	Boys	8.33 N=3	1.15	3.3 N=3	3.51	5.03	2.36*
		Girls	8.0 N=2	1.41	-	-	-	-
		Boys & Girls	8.17 N=5	1.09	3.3 N=3	3.51	4.87	3.02**
4	OBC	Boys	9.5 N=2	0.71	3.0 N=3	0.0	6.50	17.56**
		Girls	10.5 N=2	0.71	4.5 N=2	3.53	6.00	2.35*
		Boys & Girls	10.0 N=4	0.82	3.8 N=5	1.95	6.20	5.90**
5	All (Gen+SC+ ST +OBC)	Boys	7.94	1.74	2.87 N=10	1.14	5.07	7.04**
		Girls	8.64 N=11	1.76	3.25 N=4	2.50	5.39	4.72**
		Boys & Girls	8.29 N=20	1.73	2.9 N=14	1.54	5.39	9.45**

** Significant at .01 Level, * Significant at .05 level.

A perusal of **Table 19** gives information about the achievement of children in mathematics belonging to ROT and non-ROT schools separately. It is concluded that the mean achievement of children belonging to ROT schools are on the higher side than that of the achievement of children belonging to non-ROT schools. This difference is also significant and in favour of children belonging to ROT schools. This shows the effectiveness of communication technology (EDUSAT) and quality of teaching learning process through EDUSAT, where the children are able to exhibit marked improvement in achievement in mathematics. These results suggest that the concepts of mathematics can be taught in a effective way through EDUSAT so as to develop clarity in the mind of learners.

Table 20: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Chitrongi Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Difference In Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	8.25 N=4	33.0	-	-	-	-
		Girls	6.89 N=7	27.56	5.88 N=2	23.50	4.06	0.11
		Boys & Girls	7.57 N=11	30.28	5.88 N=2	23.5	6.78	0.19
2	SC	Boys	-	-	4.6 N=4	18.4	-	-
		Boys & Girls	-	-	4.6 N=4	18.4	-	-
3	ST	Boys	10.25 N=3	41.0	4.9 N=3	19.6	21.4	0.57
		Girls	7.88 N=2	31.5	-	-	-	-
		Boys & Girls	9.07 N=5	36.26	4.9 N=3	19.6	16.66	0.20
4	OBC	Boys	12.25 N=2	49.0	5.25 N=3	21.0	28.00	0.65
		Girls	10.37 N=2	41.5	5.25 N=2	21.0	20.5	0.44
		Boys & Girls	11.31 N=4	45.24	5.25 N=5	21.0	24.24	0.77
5	All (Gen+SC+ ST +OBC)	Boys	10.25 N=9	41.0	4.9 N=10	19.67	21.33	1.02
		Girls	8.38 N=11	33.52	5.57 N=4	22.26	11.26	0.42

		Boys & Girls	9.32 N=20	37.26	5.24 N=14	20.94	16.32	1.02

** Significant at .01 Level, * Significant at .05 level.

Table 20 shows the over all comparison in academic achievement of children belonging to Chitrongi Block of Sidhi district. It is found that though the mean achievement (mean percentage) of children belonging to ROT schools of Chitrongi Block is higher than that of their counterpart belonging to non-ROT schools but this difference are not statistically significant. This shows that teaching through EDUSAT is gradually able to develop the understanding of learners. But needs to be further improved in respect of content and its presentation aspects so as to develop the potentiality of the teachers to adopt suitable transactional strategies.

Table 21: Comparison of Mean Achievement of Children of Standard V Belonging to ROT and NON-ROT Schools of Devsar Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	10.0 N=4	5.35	21.0 N=2	1.41	11.0	2.71**
		Girls	4.75 N=4	5.18	-	-	-	-
		Boys & Girls	7.37 N=8	5.63	21.0 N=2	1.41	13.63	2.88**
2	SC	Boys	14.75 N=4	1.89	20.5 N=2	0.71	5.75	3.96**
		Girls	4.0 N=2	4.24	-	-	-	-
		Boys & Girls	9.37 N=2	6.05	20.5 N=2	0.71	11.13	2.46*
3	ST	Boys	6.0 N=2	1.41	-	-	-	-
		Girls	6.0 N=2	1.41	N=2 21.5	0.71	15.5	13.84**
		Boys & Girls	6.0 N=4	1.15	21.5 N=2	0.71	15.5	16.84**
4	OBC	Boys	10.4 N=5	7.36	21.0 N=3	2.65	10.6	4.54*
		Girls	6.0 N=2	1.41	20.0 N=2	1.41	14.0	9.92**
		Boys & Girls	8.20 N=7	6.41	20.5 N=5	2.07	12.3	8.91**
5	All (Gen+SC+	Boys	10.28 N=15	5.53	20.8 N=7	2.69	10.52	4.82**

	ST +OBC)	Girls	5.19 N=10	3.48	20.75 N=4	1.26	15.56	8.55**
		Boys & Girls	7.74 N=25	5.65	20.8 N=11	1.47	13.06	2.72**

** Significant at .01 Level, * Significant at .05 level.

On examination of **Table 21,** it is revealed that mean achievement of children in Hindi (Standard V) belonging to non-ROT schools of Devsar Block is much higher than that of their counterparts belonging to ROT schools and this difference is statistically significant. This shows that in Devsar Block teaching through EDUSAT is not found to be that effective as it should be. Though there may be many reasons for this low achievement of children in Hindi but it is first essential to make necessary improvements in the effective use of EduSat transmission for the benefit of children.

Table 22: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools Devsar Block in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	7.75 N=4	10.84	16.5 N=2	0.71	8.80	1.08
		Girls	13.5 N=4	7.05	-	-	-	-
		Boys & Girls	10.63 N=8	9.00	16.5 N=2	0.71	5.83	0.87
2	SC	Boys	18.5 N=4	3.11	11.5 N=2	0.71	7.0	2.98**
		Girls	9.0 N=2	2.83	-	-	-	-
		Boys & Girls	13.75 N=5	5.61	11.5 N=2	0.71	2.25	0.54
3	ST	Boys	11.0 N=2	2.83	-	-	-	-
		Girls	9.5 N=2	0.71	15.0 N=2	0.71	5.50	6.69**
		Boys & Girls	10.25 N=4	1.89	15.0 N=2	0.71	4.75	8.05**
4	OBC	Boys	8.2 N=5	9.98	15.3 N=3	1.53	7.10	1.19
		Girls	9.5 N=2	0.71	17.0 N=2	0.0	7.50	15.00**
		Boys & Girls	8.85 N=7	8.18	16.2 N=5	1.41	7.35	1.96*
5	All (Gen+SC+	Boys	11.36 N=15	8.84	14.43 N=7	2.37	3.07	0.89

	ST +OBC)	Girls	10.37 N=10	4.71	16.0 N=4	1.50	5.63	2.29*
		Boys & Girls	10.87 N=25	6.93	14.9 N=11	2.09	4.03	1.87

** Significant at .01 Level, * Significant at .05 level.

With regard to achievement of children in English, it is evident from the **Table 22** that the mean achievement of children belonging to ROT schools in Devsar Block is higher in all groups and sub groups than their counterparts belonging to non-ROT schools. In few cases like SC Boys ('t' value. =2.98), ST ('t' value C.R. =8.05) and OBC ('t' value =1.95), the differences are significant. Also, with regard to overall comparison, the difference is significant for girls ('t' value =2.29) only. This result is encouraging with regard to the use of EduSat in improving achievement of children in a foreign language like English. It provide a source of inspiration to teachers as well as children belonging to ROT schools to take maximum advantage of EDUSAT network facility for academic improvement of children in a subject like English.

Table 23: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Devsar Block in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	16.25 N=4	6.18	20.0 N=2	2.83	3.75	0.78
		Girls	15.5 N=4	4.12	-	-	-	-
		Boys & Girls	15.87 N=8	4.88	20.0 N=2	2.83	4.13	1.12
2	SC	Boys	20.0 N=4	2.16	18.0 N=2	1.41	2.0	1.16
		Girls	7.5 N=2	0.71	-	-	-	-
		Boys & Girls	13.75 N=6	6.67	18.0 N=2	1.41	4.25	0.85
3	ST	Boys	16.0 N=2	1.41	-	-	-	-
		Girls	18.0 N=2	1.1	20.0 N=2	1.41	2.00	1.42
		Boys & Girls	17.0 N=4	1.63	20.0 N=2	1.41	3.00	2.19*
4	OBC	Boys	5.6 N=5	4.87	19.3 N=3	1.53	3.70	1.25
		Girls	18.0 N=2	1.41	20.5 N=2	0.71	2.50	2.23*

		Boys & Girls	16.8 N=7	4.19	19.9 N=5	1.31	3.10	1.58
5	All (Gen+SC+ ST +OBC)	Boys	16.96 N=15	4.44	19.1 N=7	1.77	2.14	1.23
		Girls	14.75 N=10	4.77	20.25 N=4	0.96	5.50	2.24*
		Boys & Girls	15.85 N=25	4.26	19.7 N=11	1.68	4.12	3.07**

** Significant at .01 Level, * Significant at .05 level.

On examination of the **Table 23**, it is found that the achievement of children belonging to non-ROT schools in EVS is higher than that of their counterparts belonging to ROT schools in all groups and sub-groups. These differences are also statistically significant in many cases such as ST Boys and Girls, ('t' value 2.19), OBC Girls, ('t' value. =2.23), Girls ('t' value. =2.24) and Boys and Girls ('t' value. =3.07). This shows that student and teachers in general are more comfortable with face-to-face teaching-learning processes only as far as Devsar Block is concerned. This is a real challenge to the efficacy of Edusat network with regard to making it more useful in real sense.

Table 24: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Devsar Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	15.75 N=4	6.60	18.5 N=2	0.71	2.75	0.56
		Girls	15.75 N=4	6.75	-	-	-	-
		Boys & Girls	15.75 N=8	6.76	18.5 N=2	0.71	2.75	0.55
2	SC	Boys	19.5 N=4	3.42	17.0 N=2	0.0	2.50	0.97
		Girls	11.5 N=2	7.71	-	-	-	-
		Boys & Girls	15.5 N=6	4.92	17.0 N=2	0.0	1.50	0.39
3	ST	Boys	19.5 N=2	3.54	-	-	-	-
		Girls	17.5 N=2	0.71	16.0 N=2	0.71	1.50	2.11*
		Boys & Girls	18.5 N=5	2.38	16.0 N=2	0.71	2.50	1.38

4	OBC	Boys	14.8 N=5	6.79	16.3 N=3	3.06	1.50	0.35
		Girls	17.5 N=2	0.71	16.0 N=2	1.41	1.50	1.35
		Boys & Girls	16.15 N=7	5.71	16.2 N=5	2.28	0.05	0.02
5	All (Gen+SC+ ST +OBC)	Boys	17.38 N=15	5.99	16.65 N=7	2.04	0.73	0.32
		Girls	15.56 N=10	4.55	16.83 N=4	0.96	1.27	0.54
		Boys & Girls	16.47 N=25	5.11	16.9 N=11	1.72	0.43	0.27

** Significant at .01 Level, * Significant at .05 level.

Table 24 gives a comparative statement of the achievement of children in mathematics belonging to ROT and non -ROT schools. It is observed that in most of the groups and sub-groups, the achievement level of learners belonging to non - ROTs schools are on the higher side than that of their counterparts belonging to ROT schools except in case of ST Girls, ST Boys and Girls, OBC Girls, and all Boys. Only in one sub group (ST girls), a significant difference in the achievement level of children of two category of school is being noticed and it goes in favour of children belonging to ROT schools whereas in most of the other cases, the differences goes in favour of children belonging to non-ROT schools though it is not significant. These results are more or less similar to the achievement level of children in EVS.

Table 25: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Devsar Block

S. No .	Category	Gender	ROT Schools		Non ROT Schools		Difference In Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	12.43 N=4	49.75	19.0 N=2	76.0	26.25	0.62
		Girls	12.38 N=4	49.52	-	-	-	-
		Boys & Girls	12.41 N=8	49.62	19.0 N=2	76.0	26.38	0.67
2	SC	Boys	18.18 N=4	72.75	16.75 N=2	67.0	5.75	0.15
		Girls	8.0 N=2	32.00	-	-	-	-
		Boys & Girls	13.09 N=6	50.36	16.75 N=2	76.0	25.64	0.63

3	ST	Boys	13.13 N=2	52.5	-	-	-	-
		Girls	12.75 N=2	51.0	18.13 N=2	72.5	21.5	0.44
		Boys & Girls	12.94 N=4	51.76	18.13 N=2	72.5	20.74	0.49
4	OBC	Boys	11.61 N=5	46.45	17.98 N=3	719	25.45	0.61
		Girls	10.96 N=2	43.87	18.37 N=2	73.5	29.63	0.60
		Boys & Girls	11.29 N=7	45.14	18.18 N=5	72.7	27.56	0.95
5	All (Gen+SC+ ST +OBC)	Boys	13.84 N=15	55.35	17.91 N=7	71.64	16.29	0.73
		Girls	11.02 N=10	44.09	18.25 N=4	73.0	28.91	0.98
		Boys & Girls	12.43 N=25	49.72	18.08 N=11	72.32	22.6	1.26

** Significant at .01 Level, * Significant at .05 level.

On examination of **Table 25,** it may be inferred that the average (percentage) achievement level of children belonging to non-ROT schools is more than that of the children belonging to ROT schools in the Devsar of Sidhi district. It suggests that because of many intervening factors EduSat network is unable to prove as an effective strategy in improving the academic achievement of children in Devsar Block.Though the differences in groups and sub-groups are not significant but literally it goes in favour of children belonging to non-ROT schools. This posses a great challenge to teachers and administrators, and potentiality of EduSat as well in Devsar Block because the same was found to be very effective in other blocks of Sidhi District.

Table 26: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Waidhan Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	9.31 N=4	8.67	-	-	-	-
		Girls	15.17 N=6	8.61	16.5 N=2	0.71	1.33	0.21
		Boys & Girls	12.24 N=10	8.13	16.5 N=2	0.71	4.26	0.71
2	SC	Boys	11.8 N=10	10.49	16.5 N=2	7.78	4.70	0.59

		Girls	8.2 N=10	9.23	17.8 N=4	2.87	9.60	1.53
		Boys & Girls	10.0 N=20	9.79	17.2 N=6	4.18	7.20	1.73
3	ST	Boys	17.0 N=3	10.44	14.8 N=4	1.26	2.20	0.43
		Girls	21.0 N=2	1.41	-	-	-	-
		Boys & Girls	19.0 N=5	7.73	14.8 N=4	1.26	4.20	1.06
4	OBC	Boys	5.0 N=2	7.07	11.5 N=2	0.71	6.50	1.29
		Girls	5.71 N=14	2.95	17.3 N=3	9.81	11.59	4.05**
		Boys & Girls	5.36 N=16	3.30	14.2 N=5	7.65	8.84	3.78**
5	All (Gen+SC+ ST +OBC)	Boys	10.78 N=19	6.72	14.2 N=8	3.62	3.42	1.36
		Girls	12.52 N=32	7.32	17.2 N=9	5.24	4.70	1.80
		Boys & Girls	11.65 N=51	6.91	15.7 N=17	4.67	4.20	2.34**

** Significant at .01 Level, * Significant at .05 level.

Table 26 presents information about academic achievement of children belonging to Waidhan Block of Sidhi district in Hindi. From the comparative profile, it is found that the mean achievement of children (in all groups and sub-groups) in Hindi belonging to non-ROT schools is more than that of their counterparts belonging to ROT schools. Again, it is found that there is a significant difference in mean achievement of children belonging to two categories of schools in certain groups i.e. OBC Girls ('t' value. = 4.05); OBC Boys and Girls ('t' value. =3.78); and all Boys and Girl ('t' value = 2.34). These results suggest that teaching of Hindi through EDUSAT in present form has not proved to be an effective strategy to improve the achievement level of children in Waidhan block. This is a serious challenge to the experts who are incharge of the organization and transmission of content with regard to teaching of Hindi through technology (EDUSAT).

Table 27: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Waidhan Block in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	11.0 N=4	8.68	-	-	-	-
		Girls	15.33 N=6	2.95	15.5 N=2	0.71	0.17	0.07
		Boys & Girls	13.16 N=10	5.91	15.5 N=2	0.71	2.34	0.55
2	SC	Boys	10.5 N=10	8.22	16.0 N=2	0.0	5.50	0.91
		Girls	10.0 N=10	6.65	11.0 N=4	1.83	1.00	0.28
		Boys & Girls	14.92 N=5	7.23	15.3 N=4	4.27	0.38	0.09
3	ST	Boys	13.33 N=3	9.81	15.3 N=4	4.27	1.97	0.37
		Girls	16.5 N=2	2.12	-	-	-	-
		Boys & Girls	14.92 N=5	7.23	15.3 N=4	4.27	0.38	0.09
4	OBC	Boys	2.02 N=2	2.83	13.5 N=2	0.71	11.48	4.56**
		Girls	11.29 N=14	6.64	15.7 N=3	6.66	4.41	1.05
		Boys & Girls	6.64 N=16	5.45	14.8 N=5	4.87	8.16	6.23**
5	All (Gen+SC+ ST +OBC)	Boys	9.21 N=19	8.14	14.93 N=8	3.95	5.72	1.88
		Girls	13.28 N=32	5.46	14.07 N=9	4.27	0.79	0.39
		Boys & Girls	11.24 N=51	7.03	14.8 N=17	3.68	3.56	2.00*

** Significant at .01 Level, * Significant at .05 level.

Table 27 reflects the academic achievement of children in English of ROT and non-ROT schools of Waidhan Block. On perusal of this Table, it is found that in most of the cases the achievement of children belonging to non-ROT are more than that of children belonging to ROT schools. The difference is not significant in any of the sub groups except with regard to over all comparison (i.e. all Gen , SC ,ST , OBC with 't' value. =2.00). In case of Waidhan Block, the achievement in English of children of Standard V is found to be different from other blocks. Though there are many constraints/factors with regard to effectiveness of transmission through EDUSAT but conditions at learning end must be improved so that the children can get benefit from teaching this subject through EDUSAT.

Table 28: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Waidhan Block in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
		Girls	16.5 N=4	4.95	18.0 N=2	0.0	1.50	0.40
		Boys & Girls	16.5 N=4	4.95	18.0 N=2	0.0	1.50	0.40
2	SC	Boys	14.0 N=4	2.83	20.0 N=2	1.41	6.00	2.71**
		Girls	14.8 N=2	4.19	16.5 N=4	1.29	1.70	0.83
		Boys & Girls	14.4 N=6	3.51	18.3 N=6	2.16	3.90	2.32*
3	ST	Boys	16.0 N=2	3.56	18.5 N=4	4.51	2.50	0.67
		Boys & Girls	16.0 N=2	3.56	18.5 N=4	4.51	2.50	0.67
4	OBC	Boys	13.5 N=5	0.71	10.5 N=2	0.71	3.00	5.08**
		Girls	17.8 N=2	6.65	16.7 N=3	3.21	1.10	0.26
		Boys & Girls	15.4 N=7	5.24	13.4 N=5	4.08	2.00	0.71
5	All (Gen+SC + ST +OBC)	Boys	14.5 N=15	2.85	16.3 N=8	4.99	1.80	1.13
		Girls	16.37 N=10	4.76	17.07 N=9	1.90	0.70	0.41
		Boys & Girls	14.8 N=25	4.05	17.1 N=17	3.57	2.30	1.07

** Significant at .01 Level, * Significant at .05 level.

A perusal of **Table 28** shows that there is a difference in the achievements in EVS of children of Standard V. Although this difference is not statistically significant, it goes in favour of children belonging to non-ROT schools in almost all groups and sub-groups except in case of children belonging to OBC. It is also observed that achievement of boys and girls of OBC belonging to ROT schools is higher than that of non-ROT schools.This shows that a small group of children (OBC) have shown achievement at higher side by teaching through EDUSAT.The results suggest that we need to improve the quality of transmission through EDUSAT for providing benefit to other target groups also.

Table 29: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Waidhan Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	13.75 N=4	10.75	-	-	-	-
		Girls	14.17 N=4	9.86	16.5 N=2	4.95	1.33	0.17
		Boys & Girls	13.96 N=8	9.63	16.5 N=2	4.95	2.54	0.35
2	SC	Boys	13.9 N=4	9.32	14.0 N=2	2.83	0.1	0.01
		Girls	9.3 N=2	8.58	14.8 N=4	4.19	5.50	1.52
		Boys & Girls	11.6 N=6	9.06	14.4 N=6	3.51	2.80	0.95
3	ST	Boys	15.67 N=2	10.12	16.0 N=4	3.56	0.33	0.06
		Girls	19.0 N=2	2.83	-	-	-	-
		Boys & Girls	17.34 N=4	7.52	16.0 N=4	3.56	1.34	0.32
4	OBC	Boys	5.5 N=5	2.12	13.5 N=2	0.71	8.00	4.97
		Girls	4.36 N=2	3.29	17.8 N=3	6.65	13.44	2.56**
		Boys & Girls	4.93 N=7	3.14	15.4 N=5	5.24	10.47	4.34**
5	All (Gen+SC+ ST +OBC)	Boys	12.21 N=15	8.15	14.5 N=8	2.85	2.29	0.78
		Girls	11.71 N=10	7.11	16.37 N=9	4.76	4.66	1.66
		Boys & Girls	11.96 N=25	7.66	19.1 N=17	4.05	7.14	1.95

** Significant at .01 Level, * Significant at .05 level.

Table 29 presents a comparative profile of the achievement of children of Standard V in Mathematics. There is a significant difference between achievement of children belonging to ROT and NON-ROT schools in mathematics and this difference is in favour of ST (Boys and Girls) only ('t' value. = 4.97). Whereas in all other cases though the difference is not statistically significant it is in favour of children belonging to non-ROT schools like achievement in other subjects like Hindi and English. These results suggest that there is need for careful thinking as to how the transmission through EDUSAT is to improve the achievement of students like their other counterparts belonging to non-ROT schools.

Table 30: Comparison of Mean Academic Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Waidhan Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Difference In Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	11.35 N=4	45.41	-	-	-	-
		Girls	11.43 N=4	61.7	16.63 N=2	66.5	4.8	0.12
		Boys & Girls	13.39 N=8	53.56	16.63 N=2	66.5	12.94	0.32
2	SC	Boys	12.55 N=4	50.2	16.63 N=2	66.5	16.3	0.38
		Girls	10.57 N=2	42.3	15.03 N=4	60.1	17.8	0.41
		Boys & Girls	11.56 N=6	46.24	15.83 N=6	63.32	17.08	0.59
3	ST	Boys	15.5 N=2	62.0	16.15 N=4	64.6	2.6	0.06
		Girls	18.3 N=2	75.33	-	-	-	-
		Boys & Girls	16.9 N=4	67.6	16.15 N=4	64.6	3	0.08
4	OBC	Boys	6.5 N=5	26.0	12.25 N=2	49.0	23	0.31
		Girls	9.79 N=2	39.16	16.88 N=3	67.5	28.34	0.63
		Boys & Girls	8.15 N=7	32.58	14.57 N=5	58.26	25.68	0.88
5	All (Gen+SC+ ST +OBC)	Boys	11.48 N=15	45.9	15.01 N=8	60.04	14.14	0.64
		Girls	13.02 N=10	52.09	16.18 N=9	64.72	12.63	0.56
		Boys & Girls	12.25 N=25	49.0	15.59 N=17	62.36	13.36	0.85

** Significant at .01 Level, * Significant at .05 level.

Table 30 provides details about the mean achievement and means percentage of children belonging to ROT and non-ROT schools of Waidhan Block. It is found that there is no significant difference between the academic achievement of children belonging to two category of school i.e. ROT and non-ROT. Even though the differences are not statistically significant but in respect of all groups and sub groups the difference is in favour of children belonging to non-ROT schools. This presents a serious challenge to the effectiveness of EduSat network and its transmission for improving the level of achievement of children. Children belonging to ROT schools of Waidhan Block are unable to derive benefit out of it up to the level of expectation. Hence, besides teaching end, organization at learning end needs to be improved for the benefit of children.

Table 31: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sihawal Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	14.5 N=2	6.36	16.5 N=4	3.51	2.00	0.52
		Girls	15.0 N=3	4.35	12.0 N=3	7.54	3.00	0.59
		Boys & Girls	14.75 N=5	4.44	14.3 N=7	5.56	0.45	0.15
2	SC	Boys	9.0 N=2	1.41	-	-	-	-
		Girls	6.5 N=2	2.12	22.0 N=1	0.0	15.5	8.47**
		Boys & Girls	7.75 N=5	2.06	22.0 N=1	0.0	14.25	6.19**
3	ST	Boys	8.5 N=2	0.71	14.0 N=1	0.0	5.50	10.00**
		Girls	10.0 N=2	1.41	-	-	-	-
		Boys & Girls	8.75 N=4	2.38	14.0 N=1	0.0	5.25	1.97*
4	OBC	Boys	7.18 N=11	4.47	21.7 N=3	1.53	14.52	5.39**
		Girls	9.0 N=3	9.54	11.7 N=3	1.53	2.70	0.48
		Boys & Girls	8.09 N=14	5.47	16.7 N=6	5.64	8.61	3.21**
5	All (Gen+SC+	Boys	9.79 N=17	4.87	17.4 N=8	3.91	7.61	3.86**

	ST +OBC)	Girls	10.23 N=10	6.02	15.23 N=7	5.87	5.00	1.70
		Boys & Girls	9.23 N=27	5.26	16.7 N=15	5.36	7.47	4.32**

** Significant at .01 Level, * Significant at .05 level.

On perusal of **Table 31** it is found that there is a significant difference between the academic achievement (Hindi) of children belonging to ROT and non-ROT schools of Sihawal district. It is surprising that the differences are in favour of children belonging to non-ROT schools. This shows that teaching through EDUSAT has not been able to motivate the children of standard V in Sihawal block of Sidhi district. In all groups and sub-groups the mean achievement of children belonging to non-ROT schools in Hindi is higher than that of their counterparts belonging to ROT schools.In case of children belonging to General Category though the mean achievement of children of non-ROT schools is higher than that of this counterpart but this difference is not statistically significant. Similar is the situation with regard to OBC Girls and all girls as well. This needs a lot of improvement in respect of teaching of Hindi to children of all categories of Sihawal block.

Table 32: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sihawal Block in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	12.0 N=2	2.24	19.3 N=4	1.26	7.30	5.41**
		Girls	12.33 N=3	4.16	11.6 N=3	1.53	0.73	0.28
		Boys & Girls	12.16 N=5	3.63	15.5 N=7	3.61	2.89	1.36
2	SC	Boys	14.5 N=2	0.71	-	-	-	-
		Girls	2.5 N=2	2.12	15.0 N=1	0.0	12.5	6.79**
		Boys & Girls	8.5 N=4	7.05	15.0 N=1	0.0	6.50	0.82
3	ST	Boys	3.5 N=2	2.12	16.0 N=1	0.0	12.5	6.79**
		Girls	6.0 N=2	1.41	-	-	-	-
		Boys & Girls	4.75 N=4	2.06	16.0 N=1	0.0	11.25	4.89**

4	OBC	Boys	7.91 N=11	6.14	19.3 N=3	6.35	11.39	2.83**
		Girls	8.33 N=3	6.66	12.7 N=3	3.51	4.37	1.00
		Boys & Girls	8.12 N=14	5.98	16.0 N=6	5.86	7.88	2.72**
5	All (Gen+SC+ ST +OBC)	Boys	9.48 N=17	5.86	18.2 N=8	3.68	8.72	3.84**
		Girls	7.29 N=10	5.32	13.1 N=7	2.51	5.81	2.66**
		Boys & Girls	8.38 N=27	5.58	15.6 N=15	4.47	7.22	4.25**

** Significant at .01 Level, * Significant at .05 level.

On the basis of the perusal of **Table 32**, it is found that in many categories the differences in mean achievement of children of Std V in English among children of ROT and non-ROT schools are significant except in Gen Boys, General (Boys and Girls), SC (Boys and girls) and OBC Girls. The difference is in favour of children belonging to non-ROT schools. In the above mentioned groups though the difference is not significant but it is in favour of children belonging to non-ROT schools. In none of the groups and sub-groups, the mean achievement of children belonging to ROT schools is on the higher side. This situation is similar to that of mean achievement in Hindi. Student belonging to non-ROT schools of Sihawal district perform better in comparison to that of their counterparts belonging to ROT schools. This shows that a lot of improvement needs to be brought about with regard to teaching through EDUSAT and infrastructural arrangements at the learning end for deriving maximum benefit of teaching-learning through this technology.

Table 33: Comparison of Mean Achievement of Children of Standard V Belonging to ROT and NON-ROT Schools of Sihawal Block in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	12.5 N=2	10.61	18.3 N=4	5.56	5.80	0.94
		Girls	14.67 N=3	7.57	5.0 N=3	8.66	9.67	1.46
		Boys & Girls	13.58 N=5	7.63	11.7 N=7	9.52	1.88	0.36
2	SC	Boys	7.0 N=2	7.07	-	-	-	-
		Girls	6.0 N=2	1.41	24.0 N=1	0.0	18.0	14.75**

		Boys & Girls	6.5 N=4	4.20	24.0 N=1	0.0	17.5	3.73**
3	ST	Boys	7.5 N=2	2.12	23.8 N=1	0.0	15.5	8.42**
		Girls	10.0 N=2	1.41	-	-	-	-
		Boys & Girls	8.75 N=4	3.30	23.0 N=1	0.0	14.25	3.87**
4	OBC	Boys	7.18 N=11	4.47	20.0 N=3	4.58	12.82	4.39**
		Girls	9.0 N=3	9.54	10.7 N=3	11.59	1.70	0.19
		Boys & Girls	8.09 N=14	5.47	15.4 N=6	9.39	7.31	1.94
5	All (Gen+SC+ ST +OBC)	Boys	8.55 N=17	5.22	20.7 N=8	4.69	12.15	5.73**
		Girls	9.92 N=10	6.67	13.23 N=7	10.73	3.31	0.79
		Boys & Girls	9.23 N=27	5.80	18.5 N=15	9.61	9.27	3.86**

** Significant at .01 Level, * Significant at .05 level.

On the basis of the results presented in the **Table 33**, it is revealed that there is a significant difference between the mean achievement in EVS of children belonging to ROT and non-ROT schools of Sihawal district. This difference is in favour of children belonging to non-ROT school whereas in case of General Girls and General (Boys and Girls) though the difference is in favour of children belonging to ROT schools but this is not statistically significant. Overall performance shows that academic achievement of children belonging to non-ROT schools of Sihawal district is extremely impressive in comparison to their counterparts belonging to ROT schools. This situation is similar to mean achievement of children in the subjects of Hindi and English as well. This presents a serious challenge to the potentiality of EduSat network. Though it has a wider coverage, yet with regard to real achievement of children it is far behind to compete with the teaching of actual classroom situation.

Table 34: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sihawal Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	13.5 N=2	13.4	14.5 N=4	4.19	1.00	0.15
		Girls	15.0 N=3	9.84	0.3 N=3	0.58	14.7	2.58**
		Boys & Girls	14.25 N=5	9.71	7.4 N=7	9.52	6.85	1.22
2	SC	Boys	6.0 N=2	1.41	-	-	-	-
		Girls	8.0 N=2	2.82	22.0 N=1	0.0	14.0	4.05**
		Boys & Girls	7.0 N=4	2.16	22.0 N=1	0.0	15.0	6.19**
3	ST	Boys	8.5 N=2	2.12	10.0 N=1	0.0	1.50	0.58
		Girls	12.0 N=2	2.83	-	-	-	-
		Boys & Girls	10.25 N=4	2.87	10.0 N=1	0.0	0.25	0.07
4	OBC	Boys	6.64 N=11	6.84	9.3 N=3	11.55	2.66	0.52
		Girls	10.33 N=3	6.66	9.7 N=3	9.07	0.63	0.09
		Boys & Girls	8.68 N=14	6.73	9.5 N=6	8.57	1.02	0.29
5	All (Gen+SC + ST +OBC)	Boys	8.66 N=17	6.81	11.27 N=8	7.33	2.61	0.87
		Girls	11.33 N=10	6.36	10.67 N=7	9.52	0.66	0.17
		Boys & Girls	9.99 N=27	6.73	12.2 N=25	8.67	2.21	0.90

** Significant at .01 Level, * Significant at .05 level.

Table 34 presents the data about the mean achievement of children of Class V belonging to ROT and non-ROT schools of Sihawal district in Mathematics. It was found in almost all groups and sub-groups that the mean achievement of children belonging to non-ROT schools is higher than that of children belonging to ROT schools. But only in case of Gen Boys, SC Girls and SC (Boys + Girls) there is a significant difference between mean achievements in Mathematics whereas in all other cases, though the difference not significant, it is in favour of children belonging to non-ROT schools.

It is observed that in all subjects the mean achievement of children belonging to non-ROT schools is on the higher side. In many cases the differences are statistically significant whereas in few cases though the differences are in favour of children belonging to non-ROT schools but these are not statistically significant. In view of these results the role of EDUSAT in improving the achievement of children needs a review.

Table 35: Comparison of Mean Academic Achievement of Children of Standard V Belonging to ROT and NON-ROT Schools of Sihawal Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Difference In Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	13.13 N=2	52.5	17.15 N=4	70.0	17.5	0.40
		Girls	10.50 N=3	42.00	7.23 N=3	28.9	13.1	0.04
		Boys & Girls	11.82 N=5	47.26	12.19 N=7	48.76	1.5	0.05
2	SC	Boys	9.13 N=2	36.5	-	-	-	-
		Girls	5.75 N=2	23.0	20.75 N=1	83.0	60.00	0.88
		Boys & Girls	7.44 N=4	29.76	20.75 N=1	83.0	53.24	0.97
3	ST	Boys	7.0 N=2	28.0	15.75 N=1	63.0	35	0.58
		Girls	9.5 N=2	38.0	-	-	-	-
		Boys & Girls	8.25 N=4	33.0	15.75 N=1	63.0	30	0.55
4	OBC	Boys	7.22 N=11	28.91	17.58 N=3	70.30	41.39	1.31
		Girls	9.16 N=3	36.66	11.2 N=3	44.8	8.14	0.20
		Boys & Girls	8.19 N=14	32.76	14.39 N=6	57.56	24.8	1.04
5	All (Gen+SC+	Boys	9.12 N=17	36.48	16.83 N=8	67.31	30.83	1.44

	ST +OBC)	Girls	8.73 N=10	34.91	13.06 N=7	52.24	17.33	0.79
		Boys & Girls	8.93 N=27	35.72	14.95 N=15	59.78	24.06	1.50

** Significant at .01 Level, * Significant at .05 level.

It is revealed from the **Table 35** that there is a difference in the over all academic achievement of children belonging to ROT and non-ROT schools of Sihawal block of Sidhi district.In all cases the difference is in favour of children belonging to non-ROT schools except in case of Gen Girls where it is in favour of children belonging to ROT schools. It is also evident from the CR values that differences between the mean academic achievements of children belonging to two types of schools in Shihawal block are not significant statistically. Academic achievement of children belonging to ROT schools is lower than that of their counterparts in all groups and sub groups. It is a matter of concern and hence proper care needs to be taken at the teaching end to get maximum benefit of the teaching and learning through EDUSAT. The perception of the functionaries must be changed and the functionaries at learning end must be provided adequate training for deriving maximum benefit from this technology.

Table 36: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sidhi Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	15.67 N=6	3.14	12.0 N=2	0.0	3.67	1.57
		Girls	15.25 N=4	0.96	-	-	-	
		Boys & Girls	15.46 N=10	2.42	12.0 N=2	0.0	3.46	1.94
2	SC	Boys	13.2 N=5	3.49	11.3 N=3	1.15	1.90	0.89
		Girls	13.43 N=7	1.72	12.0 N=2	0.71	1.43	1.11
		Boys & Girls	13.32 N=12	2.46	11.5 N=5	0.89	1.82	1.58
3	ST	Boys	12.0 N=12	1.41	7.5 N=2	3.53	4.5	1.67
		Girls	17.5 N=2	0.71	12.5 N=2	0.71	5.00	7.04**
		Boys & Girls	14.75 N=4	3.30	9.8 N=4	3.56	4.95	2.04*

4	OBC	Boys	17.0 N=6	3.41	12.5 N=2	0.71	4.50	1.76
		Girls	12.5 N=2	0.71	11.6 N=5	5.37	0.90	0.22
		Boys & Girls	14.75 N=8	3.56	12.05 N=7	0.89	2.70	1.96*
5	All (Gen+SC+ ST +OBC)	Boys	14.46 N=19	3.49	10.83 N=9	2.42	3.63	5.04**
		Girls	. 14.67 N=15	2.02	12.0 N=9	0.79	2.67	3.76**
		Boys & Girls	14.75 N=34	3.03	11.0 N=18	1.81	3.75	4.80**

** Significant at .01 Level, * Significant at .05 level.

From the perusal of **Table 36** reveals that there is a significant difference between the academic achievement (Hindi) of children of Class V belonging to ROT and non-ROT schools in Sidhi block. The difference is in favour of children belonging to ROT schools. This indicates an excellent impact of EduSat on achievement of children. It may be noted that Sidhi Block is the district headquarter of Sidhi District and the sample schools are very near to State Project Office and other offices. So, the implementation i.e. core at learning end is being taken care of which is reflected from the mean achievement level of children. Similar is the situation with regard to certain sub-groups like ST Girls, ST (Boys and Girls) as well as the mean achievement of children from these groups belonging to ROT schools is higher than that of their counterparts belonging to Non-ROT Schools. In all other cases (sub-groups) though there exists a difference between these two types of schools; these differences which are in favour of children belonging to ROT schools are not statistically significant.This clearly defines the progressive role of EDUSAT network in improving the learning outcomes of target groups.

Table 37: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sidhi Block in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	13.17 N=6	0.75	13.0 N=2	1.41	0.17	0.23
		Girls	13.0 N=4	5.16	-	-	-	
		Boys & Girls	13.09 n=10	1.29	13.0 N=2	1.41	0.09	0.09

2	SC	Boys	10.6 N=5	3.13	6.0 N=3	2.65	4.60	2.11*
		Girls	10.71 N=7	1.60	6.0 N=2	0.71	4.71	6.28**
		Boys & Girls	10.66 N=12	2.23	5.5 N=5	1.92	5.16	4.48**
3	ST	Boys	11.0 N=2	4.24	0.0 N=2	0.0	11.0	3.68**
		Girls	14.5 N=2	0.71	4.5 N=2	0.71	10.0	20.00**
		Boys & Girls	12.75 N=5	3.20	2.5 N=4	2.63	10.25	14.04**
4	OBC	Boys	12.0 N=6	2.00	12.5 N=5	2.61	10.1	4.78**
		Girls	13.5 N=2	2.12	3.4 N=5	2.61	10.1	4.78**
		Boys & Girls	12.75 N=8	1.99	8.2 N=7	4.93	4.55	2.40*
5	All (Gen+SC+ ST +OBC)	Boys	11.69 N=19	2.35	10.5 N=9	5.55	1.19	0.80
		Girls	12.93 N=15	2.14	14.83 N=9	3.43	1.90	1.13
		Boys & Girls	12.31 N=34	2.22	7.4 N=18	4.46	4.91	5.34*

** Significant at .01 Level, * Significant at .05 level.

On the basis of the results presented in Table 37, it is evident that the mean achievement of children in English of Class V belonging to ROT schools of Sidhi district is higher than that of their counterpart belonging to non-ROT schools. With regard to over all analysis, the difference is significant ('t' value.=5.34) for all (Boys and Girls). Similarly in many sub-groups, there is a significant difference between the mean achievement of children belonging to two categories of schools i.e. SC Boys, SC Girls, ST Boys, ST Girls, and OBC girls. These significant differences are in favour of children belonging to ROT schools. In rest of the cases, though the differences are not significant, are also goes in favour of children belonging to ROT schools.

Here we notice that there is a contradiction between the findings as revealed from Sidhi block and Sihawal & Waidhan block. The difference in achievement of children in Sidhi block are in favour of ROT schools whereas in Shihawal and Waidhan block mean achievement of children belonging non-ROT schools are higher than ROT Schools. Hence,it is revealed that care must be taken to improve the situation at learning end in Shihawal and Waidhan block to derive maximum benefit of this EDUSAT technology.

Table 38: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sidhi Block in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	12.0 N=6	5.54	14.0 N=2	5.66	2.00	0.44
		Girls	14.5 N=4	1.29	-	-		
		Boys & Girls	13.25 N=10	4.32	14.0 N=2	5.66	0.75	0.22
2	SC	Boys	9.4 N=5	5.68	10.3 N=3	2.52	0.90	0.72
		Girls	12.29 N=7	2.14	12.0 N=2	0.71	0.29	0.18
		Boys & Girls	10.85 N=12	4.06	11.15 N=5	2.17	0.30	0.15
3	ST	Boys	9.8 N=2	0.71	7.0 N=2	4.24	2.80	0.92
		Girls	13.0 N=2	0.83	4.5 N=2	0.71	8.50	11.04**
		Boys & Girls	11.4 N=4	2.63	5.5 N=4	2.87	5.90	3.03**
4	OBC	Boys	13.5 N=6	2.43	15.5 N=2	0.71	2.00	1.09
		Girls	11.5 N=2	3.54	10.8 N=5	2.59	0.70	0.29
		Boys & Girls	12.5 N=8	2.62	13.4 N=7	3.13	0.90	0.61
5	All (Gen+SC+ ST +OBC)	Boys	11.18 N=19	4.55	11.65 N=9	4.36	0.47	0.14
		Girls	12.83 N=15	2.23	9.1 N=9	3.64	3.71	3.12**
		Boys & Girls	12.0 N=34	3.86	11.0 N=18	3.98	1.00	0.88

** Significant at .01 Level, * Significant at .05 level.

A perusal of **Table 38** shows that the mean achievement of children belonging to ST girls, ST (Boys and Girls) and All (Boys and Girls) belonging to ROT schools is higher in EVS than their counterparts belonging to non-ROT schools.The difference between the two groups of children is statistically significant as well. These results indicate that the EDUSAT network has made a considerable impact on the children belonging to Sidhi block in improving the achievement in EVS. In all other groups and sub-groups though the differences are not statistically significant but are substantially in favour of children belonging to ROT schools in Sidhi block. This indicates a remarkable achievement with regard to usefulness of EDUSAT technology in the teaching-learning process at elementary level. To get more benefit out of this technology, frequent orientation/training need to be imparted to all stakeholders including the teachers working at gross root level, and more efforts should be made for the development of infrastructure at learning ends (primary and upper primary schools).

Table 39: Comparison of Mean Achievement of Children of Standard V belonging to ROT and NON-ROT Schools of Sidhi Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	10.33 N=6	5.16	11.5 N=2	4.95	1.17	0.28
		Girls	18.75 N=4	2.98	-	-	-	-
		Boys & Girls	14.54 N=10	6.06	11.5 N=2	4.95	3.04	0.66
2	SC	Boys	11.8 N=5	7.12	9.7 N=3	8.38	2.10	0.38
		Girls	14.0 N=7	3.69	6.0 N=2	0.71	8.00	2.89**
		Boys & Girls	12.9 N=12	5.21	7.9 N=5	6.19	5.00	1.71
3	ST	Boys	18.0 N=2	2.83	6.0 N=2	7.07	12.00	2.23*
		Girls	15.0 N=2	2.83	8.5 N=2	0.71	6.50	3.16**
		Boys & Girls	16.5 N=4	2.89	7.5 N=4	5.12	9.00	1.04
4	OBC	Boys	17.17 N=6	4.26	16.5 N=2	0.71	0.67	0.21
		Girls	13.0 N=2	2.83	2.6 N=5	2.50	10.40	4.83**
		Boys & Girls	15.09 N=8	4.22	9.3 N=3	7.09	5.79	1.96*
5	All (Gen+SC+ ST +OBC)	Boys	14.33 N=19	5.92	10.93 N=9	6.64	3.40	1.37
		Girls	15.19 N=15	3.73	5.7 N=9	3.72	9.49	6.33**
		Boys & Girls	14.75 N=34	5.34	9.0 N=18	5.93	5.75	3.57*

** Significant at .01 Level, * Significant at .05 level.

Table 39 shows the comparative profile of the achievement in mathematics of children of class V studying in ROT and non-ROT schools of Sidhi Block. It is observed that there is no significant differences ('t' value =1.37) with regard to achievement in mathematics of boys belonging to two category of schools but the difference between the mean achievement of girl is statistically significant ('t' value. =6.33). Similar is the situation with regard to certain sub-groups like SC (for boy 't' value. =0.38, Girls 't' value=2.89) and OBC (for Boys 't' value =0.21, Girls 't' value.=4.38). In case of ST the differences are significant both in case of boys ('t' value =2.33) and girls ('t' value. =3.16) as well. In all other cases though the differences are not significant but these are in favour of children belonging to ROT schools. This shows that in all subjects (Hindi, English, EVS and Maths) the mean achievement of children belonging to ROT schools in Sidhi block are higher than that of their counterparts belonging to non-ROT schools. From these results we may be infer that in these subjects' shows the use of EDUSAT technology is worthwhile for improving the academic achievement of children.

Table 40: Comparison of Mean Academic Achievement of Children of Standard V Belonging to ROT and NON-ROT Schools of Sidhi Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Diff. in Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	12.79 N=6	51.17	12.63 N=2	50.50	0.67	0.14
		Girls	15.37 N=4	51.5	-		-	-
		Boys & Girls	14.08 N=10	56.32	12.63 N=2	50.50	5.82	0.15
2	SC	Boys	11.25 N=5	45.0	9.32 N=3	37.3	7.7	0.21
		Girls	12.61 N=7	50.43	9.0 N=2	36.0	14.53	0.36
		Boys & Girls	11.93 N=12	47.72	9.16 N=5	36.64	11.08	0.44
3	ST	Boys	12.7 N=2	50.8	5.13 N=2	20.5	29.58	0.63
		Girls	15.0 N=2	60.0	7.1 N=2	28.4	31.6	0.64
		Boys & Girls	13.85 N=4	55.4	6.12 N=4	24.46	30.94	0.89

4	OBC	Boys	14.92 N=6	59.67	14.25 N=2	57.0	2.67	0.07
		Girls	12.63 N=2	50.5	7.14 N=5	28.0	22.5	0.56
		Boys & Girls	13.78 N=8	55.1	10.68 N=7	42.7	12.4	0.48
5	All (Gen+SC+ ST +OBC)	Boys	12.92 N=19	51.66	10.33 N=9	41.33	10.33	0.51
		Girls	13.91 N=15	55.61	7.73 N=9	30.93	24.68	1.17
		Boys & Girls	13.42 N=34	53.66	9.03 N=18	36.12	17.54	1.21

The **Table 40** provides a comparative profile of the academic achievement of two category of children of class V belonging to ROT and non-ROT schools of Sidhi block. For all groups and sub-groups though the differences in mean percentage are not significant, the mean percentage of children belonging to ROT schools is at the higher side than their counterparts. This is a great achievement on the part of the implementation of EDUSAT technology and its effectiveness is improving the academic performance of children. The results reflected in the **Table 35 to 40** may be treated as a trend for the functionaries of SSA for deriving maximum benefit from EDUSAT. With the effective implementation of this technology, the academic performance of children as well as all round development of children can be made possible and it will help in providing quality teaching-learning at elementary level.

10.3 Section C

Analysis and Interpretation of the Achievement of Children (Sidhi District) of STD. III in Hindi, English, EVS, Mathematics and their Overall Mean Academic Achievements

The means and SDs achievement in Hindi, English, EVS and Mathematics of children, boys and girls and boys and girls together of Standard III studying in ROT and non ROT schools of Sidhi district, in respect of general, SC, ST, OBC categories were calculated. The overall mean and S.D. of all these categories in respect of boys, girls, and boys and girls together were also computed. In order to test the significance of the difference between the means of the respective categories, C.R. values were calculated. The results are presented in Table 41, Table 42, Table 43 Table 44 and Table 45.

Table 41: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON ROT Schools of Sidhi District in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		C.R. value
			Mean	Mean %	Mean	Mean %	
1	Gen	Boys	10.41 N=27	41.64	10.2 N=10	40.8	0.05
		Girls	8.64 N=40	34.57	12.32 N=18	49.27	1.06
		Boys & Girls	9.53 N=67	38.1	11.26 N=28	45.04	0.60
2	SC	Boys	8.67 N=20	34.65	10.56 N=14	42.24	0.45
		Girls	7.96 N=28	31.63	11.33 N=7	45.33	0.72
		Boys & Girls	8.32 N=48	33.26	10.95 N=21	43.78	0.84
3	ST	Boys	8.58 N=17	34.34	10.33 N=9	41.3	0.35
		Girls	7.68 N=14	30.74	8.00 N=17	32.0	0.09
		Boys & Girls	8.13 N=31	32.5	9.17 N=26	36.67	0.33
4	OBC	Boys	9.67 N=48	38.68	9.93 N=13	39.7	0.07
		Girls	9.43 N=36	37.71	8.0 N=16	32.0	0.39
		Boys & Girls	9.55 N=84	38.2	8.96 N=29	35.86	0.22
5	All (Gen+SC+ ST +OBC)	Boys	9.33 N=112	37.33	10.26 N=46	41.02	0.43
		Girls	8.43 N=118	33.71	9.91 N=58	39.65	0.77
		Boys & Girls	8.88 N=230	35.52	10.08 N=104	40.34	0.84

Table 41 shows the comparative profile of the achievement of Children belonging to ROT and non-ROT schools of Sidhi district of Madhya Pradesh in Hindi. It is clearly observed from the above table that mean percentage of children (achievement in Hindi) belonging to non-ROT schools are higher than that of their counterparts belonging to ROT schools in almost all groups and sub-groups except General Boys (mean percentage of children belonging to ROT schools is 41.64% and non-ROT schools is 40.8%), and OBC Girls (mean percentage of children belonging to ROT schools is 37.71% and non-ROT schools is 32.0%).In none of the cases the

difference in mean percentage is found to be significant as revealed from the critical ratio values.

From these results, it is quite clear that children belonging to ROT schools are unable to compete with their counterparts belonging to non-ROT schools. This really poses a great challenge to the functionaries of EduSat technology who invest a huge expenditure in the implementation of this technology at elementary level. At the same time, it is point to these functionaries to improve the transmission through EduSat, orient the grassroot level functionaries and develop adequate infrastructure for getting the maximum benefit from this technology.

Table 42 : Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Sidhi District in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Diff. in Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	11.26 N=27	45.03	10.25 N=10	41.01	4.02	0.22
		Girls	10.45 N=40	41.82	10.03 N=18	40.13	1.69	0.12
		Boys & Girls	10.86 N=67	43.42	10.14 N=28	40.56	2.86	0.26
2	SC	Boys	10.38 N=20	41.52	10.76 N=14	43.04	1.52	0.09
		Girls	9.87 N=28	39.51	13.5 N=7	54.0	14.49	0.69
		Boys & Girls	10.13 N=48	40.5	12.13 N=21	48.52	8.02	0.62
3	ST	Boys	8.25 N=17	33.0	11.57 N=9	46.3	13.3	0.67
		Girls	7.07 N=14	28.27	9.74 N=17	38.96	10.69	0.62
		Boys & Girls	7.66 N=31	30.64	10.65 N=26	42.62	11.98	0.94
4	OBC .	Boys	10.37 N=48	41.49	17.43 N=13	29.7	11.79	0.77
		Girls	9.72 N=36	38.86	8.38 N=16	33.5	5.36	0.37
		Boys & Girls	10.05 N=84	40.18	7.91 N=29	31.62	8.56	0.82
5	All (Gen+SC+	Boys	10.06 N=112	40.24	10.00 N=46	40.0	0.24	0.03

	ST +OBC)	Girls	9.28 N=118	37.11	10.41 N=58	41.65	4.54	0.58
		Boys & Girls	9.67 N=230	38.68	10.21 N=104	40.82	2.14	0.37

On examination of **Table 42** it is found that there is no significant (statistically) difference between the mean percentage of children in English belonging to ROT and NON-ROT schools of Sidhi district. The comparative profile presented in Table 42 presents a mixed picture. Teaching through EDUSAT has made a positive impact on the achievement of certain sub groups except SC Girls, ST Boys and ST Girls because the mean percentage of these children is higher than that of their counterparts belonging to ROT schools. In all other cases though the difference is not significant, the mean achievement of children belonging to ROT schools is on the higher side than that of children belonging to non-ROT schools. This exhibit the efficacy of EDUSAT technology with regard to teaching-learning process at primary level.

On the basis of the comparison of achievement of children as a whole, it is found that mean achievement of boys in English belonging to ROT schools is slightly more than that of children belonging to non-ROT schools. But the situation is reversed with regard to achievement of girls. Similar is the situation with regard to the achievement of boys and girls jointly. This indicates that EduSat technology needs much more improvement especially in case of girls and the total group of boys and girls together.

Table 43: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Sidhi District in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Diff. in Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	14.54 N=27	58.18	9.0 N=10	36.0	22.18	1.19
		Girls	12.78 N=40	51.12	7.6 N=18	30.4	20.72	1.46
		Boys & Girls	13.66 N=67	54.64	8.30 N=28	33.20	21.44	1.91
2	SC	Boys	12.61 N=20	50.45	12.50 N=14	50.0	0.45	0.03
		Girls	9.03 N=28	36.10	9.17 N=7	36.67	0.57	0.03
		Boys & Girls	10.82 N=48	43.28	10.84 N=21	43.34	0.06	0.01

3	ST	Boys	8.35 N=17	33.42	10.75 N=9	43.6	10.18	0.48
		Girls	9.47 N=14	37.86	5.4 N=17	21.73	16.13	1.29
		Boys & Girls	8.91 N=31	35.64	8.08 N=26	32.3	3.34	0.19
4	OBC	Boys	11.9 N=48	47.98	13.13 N=13	52.53	4.55	0.27
		Girls	10.83 N=36	43.31	6.8 N=16	27.2	16.11	1.10
		Boys & Girls	11.36 N=84	45.46	9.96 N=29	39.86	5.6	0.52
5	All (Gen+SCST +OBC)	Boys	11.85 N=112	47.4	11.34 N=46	45.38	2.02	0.23
		Girls	10.53 N=118	42.11	7.24 N=58	28.97	13.14	1.51
		Boys & Girls	11.19 N=230	44.76	9.29 N=104	37.16	10.6	1.82

Table 43 shows the comparative profile of the (academic achievement) of children in EVS belonging to two different types of schools (ROT schools and non-ROT schools). It is revealed from the table 43 that mean percentage of children belonging to ROT schools are on the higher side than that of their counterparts belonging to non-ROT schools except in case of SC Girls, ST Boys and OBC Boys. No significant difference is found between the mean percentages of children belonging to two categories of schools. Though teaching through EduSat has improved the performance of children in the achievement of EVS, but it is not up to the desired level when compared with achievement of their counterparts who are slightly ahead of them.

Again on the basis of the comparison as a whole, it is found that the mean percentage of children in EVS belonging to ROT schools is higher in case of boys and girls as well. Though the difference is not significant but the value of critical ratio is in the higher side i.e. CR=1.5 in case of girls and 1.82 in case of boys and girls together. It is a remarkable achievement with regard to the contribution of EduSat technology.

Table 44: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Sidhi District in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Diff. in Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	12.17 N=27	48.66	10.15 N=10	40.59	8.07	0.44
		Girls	10.36 N=40	41.42	7.09 N=18	28.35	13.07	0.95
		Boys & Girls	11.26 N=67	45.06	8.62 N=28	34.48	10.58	0.95
2	SC	Boys	10.93 N=20	43.71	11.0 N=14	44.0	0.29	0.02
		Girls	8.58 N=28	34.31	11.5 N=7	46.0	11.69	0.57
		Boys & Girls	9.76 N=48	39.02	11.25 N=21	45.0	5.98	0.45
3	ST	Boys	8.76 N=17	35.07	10.86 N=9	43.47	8.4	0.42
		Girls	8.25 N=14	32.99	7.36 N=17	29.44	3.55	0.18
		Boys & Girls	8.51 N=31	34.02	9.11 N=26	36.44	2.42	0.19
4	OBC	Boys	10.3 N=48	41.2	9.95 N=13	39.81	1.39	0.09
		Girls	9.89 N=36	39.53	7.00 N=16	2.80	36.73	0.80
		Boys & Girls	10.09 N=84	40.38	8.48 N=29	33.9	6.48	0.62
5	All (Gen+SC+ ST +OBC)	Boys	10.54 N=112	42.16	10.49 N=46	41.96	0.2	0.02
		Girls	9.27 N=118	37.08	8.24 N=58	32.95	4.13	0.54
		Boys & Girls	9.01 N=230	39.62	9.36 N=104	37.46	2.16	0.38

Table 44 gives a comparative profile of the overall academic achievement of children of Sidhi district (belonging to ROT and non-ROT schools). On the basis of comparison of sub-groups, it is observed that the mean achievement percentage of children of general group and OBC group is higher for ROT schools. This hold equally good for sub-groups like boys and girls as well. In case of SC and ST

children, the situation is reversed.The difference goes in favour of children belonging to non -ROT schools except ST Girls. In case of General group and OBC group, the difference is in favour of ROT schools wheras for remaining two groups (SC and ST) it goes in favour of non-ROT schools.

Irrespective of the groups, the overall comparison revealed that mean percentage of children of standard III of Sidhi district belonging to ROT schools is higher (39.62%) than that of non-ROT schools (37.46%). Similar is the situation with regard to the sub-group like boys (mean percentage of ROT schools 42.16% and non-ROT 41.96%) and girls (mean percentage of ROT schools 37.08% and non-ROT schools 32.95%). In none of the groups and sub-groups, the difference in mean percentage is statistically significant.

Table 45: Comparison of Mean Academic Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Sidhi District

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Diff. in Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	12.45 N=27	49.79	11.14 N=10	44.56	5.23	0.28
		Girls	9.55 N=40	38.2	8.43 N=18	33.73	4.47	0.33
		Boys & Girls	11.0 N=67	44.0	9.79 N=28	39.14	4.86	0.43
2	SC	Boys	9.93 N=20	39.7	10.18 N=14	40.72	1.02	0.06
		Girls	9.45 N=28	37.81	12.0 N=7	48.0	10.19	0.49
		Boys & Girls	9.69 N=48	38.76	11.09 N=21	44.36	5.6	0.44
3	ST	Boys	9.89 N=17	39.58	11.0 N=9	44.0	4.42	0.22
		Girls	8.77 N=14	35.07	6.30 N=17	25.2	9.87	0.51
		Boys & Girls	9.28 N=31	37.14	8.65 N=26	34.6	2.54	0.21
4	OBC	Boys	9.26 N=48	37.06	9.32 N=13	37.3	0.24	0.12
		Girls	9.55 N=36	38.19	4.83 N=16	19.3	18.89	1.34
		Boys & Girls	9.41 N=84	37.62	7.08 N=29	28.3	9.32	0.92

5	All (Gen+SC+ ST +OBC)	Boys	10.38 N=112	41.53	10.47 N=46	41.9	0.37	0.04
		Girls	9.33 N=118	37.32	7.89 N=58	31.56	5.76	0.75
		Boys & Girls	9.37 N=230	37.48	9.18 N=104	36.72	0.76	0.13

A perusal of **Table 45** indicates that the mean percentage of children belonging to ROT and non-ROT schools of Sidhi district in Mathematic is in favour of children belonging to ROT schools in certain groups like General Boys, general Girls, SC Boys, ST Girls and OBC Girls; whereas in all other cases like SC Girls, ST Boys and OBC Boys, it is in favour of children belonging to NON-ROT schools. This shows that target of EDUSAT has been achieved to certain extent though teaching through this technology is yet to compete successfully for all sub-groups. It is also indicated from the **Table 45** that no difference is found to be statistically significant. It is a sort of challenge to the efficacy of teaching and learning through EDUSAT.

On comparison of all groups of children irrespective of groups and sub-groups, it is found that mean percentage of children belonging to ROT school (37.48%) is slightly more than that of children belonging to non-ROT schools (36.72%). Similar is the situation with regard to achievement of boys (41.53% for ROT schools and 41.9% for non-ROT schools). Whereas the achievement (mean percentage) of girls belonging to ROT school (37.32%) is higher than girls belonging to non-ROT schools (31.56%)

10.4 Section D

Analysis and Interpretation of the Achievement of Children (Rampur, Majholi, Chitrongi, Devsar, Waidhan, Sinhawal and Sidhi Blocks) of STD. III in Hindi, English, EVS, Mathematics and their Overall Academic Achievements.

The means and SDs of achievement of children of Standard III for various categories in Hindi, English, EVS, Mathematics and their overall mean academic achievement in respect of ROT schools and non-ROT schools of Rampur, Majholi, Chitrongi, Devsar, Waidhan, Sinhawal and Sidhi Blocks were computed. The significance of the difference between Means was tested for each category, viz., General, SC, ST, OBC and all categorie combined. The results are presented in the Table 46 to 80.

Table 46: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Rampur Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' Value
			Mean	SD	Mean	SD		
1	Gen	Boys	8.3 N=6	5.75	11.0 N=3	7.63	2.70	0.60
		Girls	4.67 N=6	1.63	-	-	-	-
		Boys & Girls	6.49 N=12	4.53	11.0 N=3	7.63	4.51	1.37
2	SC	Boys	3.80 N=5	1.30	11.0 N=2	1.41	7.20	6.61**
		Girls	6.0 N=2	8.48	12.5 N=3	0.71	6.50	1.15
		Boys & Girls	4.90 N=7	3.78	11.5 N=5	1.26	6.60	3.75**
3	ST	Boys	-	-	10.3 N=4	0.96	-	-
		Girls	-	-	10.8 N=4	1.5	-	-
		Boys & Girls	-	-	10.6 N=8	2.39	-	-
4	OBC	Boys	16.89 N=9	5.95	-	-	-	-
		Girls	23.33 N=3	0.58	-	-	-	-
		Boys & Girls	20.11 N=12	5.85	-	-	-	-
5	All (Gen+SC+ ST +OBC)	Boys	9.66 N=20	7.50	10.77 N=9	1.89	1.10	0.43
		Girls	11.33 N=11	9.07	11.65 N=7	2.21	0.32	0.09
		Boys & Girls	10.5 N=31	7.96	10.0 N=16	1.84	0.5	0.25

** Significant at .01 Level, * Significant at .05 level.

Table 46 shows the achievement of children of Class III in Hindi belonging to two different schools of Rampur block of Sidhi district. It is observed that there is significant difference between achievement of children in Hindi of ROT and NON-ROT schools of Rampur block. In case of SC Boys (C.R.=6.61) and SC Boys + Girls (C.R.=3.75). It is surprising to note that this difference is in favour of children belonging to NON-ROT schools. In all other cases (groups & sub groups) also the difference is in favour of children belonging to NON-ROT schools.

On the basis of overall analysis, it is found that boys and girls of NON-ROT schools secured more marks than that of their counterparts belonging to ROT schools. This shows that with regard to achievement of children in Hindi, EDUSAT technology has not been able to compete with classroom teaching-learning process. This is a serious challenge to the technology with regard to its effectiveness at primary level.

Table 47: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Rampur Block in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' Value
			Mean	SD	Mean	SD		
1	Gen	Boys	15.0 N=6	4.94	9.7 N=3	2.08	5.30	1.89
		Girls	11.5 N=6	2.28	-	-	-	-
		Boys & Girls	13.25 N=12	3.71	9.7 N=3	2.08	3.55	1.14
2	SC	Boys	16.2 N=5	0.84	16.0 N=2	0.71	0.2	0.29
		Girls	15.0 N=2	1.41	14.5 N=3	0.71	0.5	0.55 0.55
		Boys & Girls	15.6 N=7	1.07	15.0 N=5	0.82	0.6	1.82
3	ST	Boys	-	-	12.3 N=4	1.26	-	-
		Girls	-	-	11.2 N=4	1.83	-	-
		Boys & Girls	-	-	11.8 N=8	3.95	-	-
4	OBC	Boys	15.78 N=9	2.22	-	-	-	-
		Girls	15.33 N=3	0.58	-	-	-	-
		Boys & Girls	15.56 N=12	1.98	-	-	-	-
5	All (Gen+SC+ ST +OBC)	Boys	15.66 N=20	2.97	12.67 N=9	2.06	2.99	2.74**
		Girls	13.94 N=11	1.81	12.85 N=7	2.12	1.09	1.17
		Boys & Girls	14.80 N=31	2.69	12.2 N=16	2.03	2.60	0.76

** Significant at .01 Level, * Significant at .05 level.

From **Table 47**, it is revealed that academic achievement of boys of standard III in English belonging to ROT schools (M=15.66) of Rampur block is higher than that of children of non-ROT schools (M=12.67). This difference is statistically significant ('t' Value.=2.74) as well. But with regard to girls, though the mean achievement of children belonging to ROT schools (M=13.94) is on the higher side than that of non ROT schools (M=12.85), the difference is not statistically significant.

With regard to groups like General and SC children also, the difference is in favour of children belonging to ROT schools but not statistically significant ('t' Value.=1.44 for General and 't' Value.=1.82 for SC). Similar is the situation with regard to certain sub groups like General Boys, General girls, SC Boys and SC Girls. This reflects the efficacy of EDUSAT technology to certain extent with regard to achievement of children at primary level in rural areas like Rampur block of Sidhi district.

Table 48: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Rampur Block in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' Value
			Mean	SD	Mean	SD		
1	Gen	Boys	13.67 N=6	6.02	8.3 N=3	7.63	5.37	1.16
		Girls	11.67 N=6	2.40	-	-	-	-
		Boys & Girls	12.67 N=12	4.48	8.3 N=3	7.63	4.37	1.34
2	SC	Boys	14.0 N=5	3.99	13.0 N=2	2.83	1.00	0.32
		Girls	11.5 N=2	0.71	9.5 N=3	0.71	2.00	3.07
		Boys & Girls	12.75 N=7	3.99	11.0 N=5	2.63	1.75	0.85
3	ST	Boys	-	-	15.5 N=4	2.63	-	-
		Girls	-	-	8.6 N=4	5.73	-	-
		Boys & Girls	-	-	12.1 N=8	5.28	-	-
4	OBC	Boys	19.22 N=9	3.30	-	-	-	-
		Girls	20.67 N=3	3.21	-	-	-	-
		Boys & Girls	19.95 N=12	3.50	-	-	-	-

5	All (Gen+SC+ ST +OBC)	Boys	15.63 N=20	5.09	12.27 N=9	5.09	3.36	0.80
		Girls	14.61 N=11	4.96	9.05 N=7	4.71	5.56	2.36*
		Boys & Girls	15.12 N=31	4.83	10.5 N=16	5.03	4.62	1.48

** Significant at .01 Level, * Significant at .05 level.

Table 48 gives a comparative picture of the academic achievement of children in EVS belonging to ROT and non-ROT schools of Rampur Block of Sidhi district. It is noticed from the table 48 that there is a significant difference ('t' Value.=2.36) between the achievement of Girls in EVS belonging to ROT and NON-ROT schools. This difference is in favour of children belonging to ROT schools. In case of boys the mean achievement of children belonging to ROT schools is higher (M=15.63) than boys belonging to non-ROT schools (M=12.27). But the difference is not statistically significant ('t' Value. =0.80).

Similar is the situation with regard to sub-groups of SC children as well. In case of General children the mean achievement of boys (M=13.67) is more than that of their counterparts belonging to non ROT schools (M=8.3).These results indicate that transmission through EduSat has been to able to influence the achievement in English of children of Standard III is an effective manner through teaching and learning.

Table 49: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Rampur Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' Value
			Mean	SD	Mean	SD		
1	Gen	Boys	11.67 N=6	5.68	21.0 N=3	5.19	9.33	2.37*
		Girls	8.0 N=6	1.89	-	-	-	-
		Boys & Girls	9.84 N=12	4.47	21.0 N=3	5.19	11.16	3.69**
2	SC	Boys	8.8 N=5	3.56	20.0 N=2	0.0	11.2	4.21**
		Girls	9.0 N=2	1.41	20.5 N=3	0.71	11.5	7.28**
		Boys & Girls	8.9 N=7	2.97	20.5 N=5	0.5	11.6	1.85

3	ST	Boys	-	-	21.0 N=4	2.16	-	-
		Girls	-	-	18.2 N=4	5.81	-	-
		Boys & Girls	-	-	19.6 N=8	4.56		
4	OBC	Boys	16.33 N=9	2.83	-	-	-	-
		Girls	18.33 N=3	1.15	-	-	-	-
		Boys & Girls	17.33 N=12	2.63	-	-	-	-
5	All (Gen+SC + ST +OBC)	Boys	12.27 N=20	4.87	20.6 N=9	3.23	8.33	4.67**
		Girls	11.78 N=11	4.96	19.35 N=7	4.87	7.57	3.18**
		Boys & Girls	12.02 N=31	4.78	N=16 N=16	3.91	8.28	6.04**

** Significant at .01 Level, * Significant at .05 level.

On examination of **Table 49**, it is revealed that the teaching-learning through EDUSAT for the subject of mathematics is failed to compete with classroom teaching-learning process. There is a significant difference between the achievement of children (boys, girls and boys and girls) in Mathematics belonging to ROT and non-ROT schools. This difference is clearly in favour of children belonging to non-ROT schools of Rampur Block. The situation is exactly similar with regard to General Boys, general Girls, SC Boys and SC Girls as well.

This is really a great shock for the administrators, planners and policy makers. Teaching through EduSat as a technology is drastically failed with regard to improving achievement of children in Mathematics. It is serious concern for all of us to improve the strategy of teaching and learning of mathematics through EDUSAT.

Table 50: Comparison of Mean Academic Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Rampur Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Difference In Mean %	C.R. Value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	12.16 N=6	48.64	12.5 N=3	50.0	1.36	0.04
		Girls	8.96 N=6	35.84	-	-	-	-

		Boys & Girls	10.56 N=12	42.24	12.5 N=3	0.0	-	1.38
2	SC	Boys	10.7 N=5	42.8	15.0 N=2	60.0	17.2	0.41
		Girls	10.38 N=2	41.5	14.25 N=3	57.0	15.5	0.34
		Boys & Girls	10.54 N=7	42.16	14.63 N=5	58.5	16.34	0.56
3	ST	Boys	-	-	14.78 N=4	59.1	-	-
		Girls	-	-	12.2 N=4	48.8	-	-
		Boys & Girls	-	-	13.49 N=8	53.96	-	-
4	OBC	Boys	17.06 N=9	68.22	-	-	-	-
		Girls	19.41 N=3	76.66	-	-	-	-
		Boys & Girls	18.24 N=12	72.94	-	-	-	-
5	All (Gen+SC+ ST +OBC)	Boys	13.31 N=20	53.22	14.09 N=9	56.37	3.15	0.16
		Girls	12.92 N=11	51.66	13.23 N=7	52.9	1.24	0.04
		Boys & Girls	13.12 N=31	52.46	13.66 N=16	54.64	2.18	0.14

** Significant at .01 Level, * Significant at .05 level.

Table 50 shows the overall achievement of children of Class III and provides a comparative profile of children belonging to ROT and non-ROT schools of Rampur Block.

It is noticed that there is no significant difference between the overall academic achievement of this two groups of children (belonging to ROT and non-ROT schools) of standard III. It is clear that achievement of boys and girls of non-ROT schools are on the higher side in comparison of their counterparts belonging to ROT schools. Similar situation is noticed in certain sub-groups like SC Boys and SC Girls, as well.

This clearly shows that for the improvement of academic achievement of rural children, the teaching programme through EDUSAT transmission should be made more interesting keeping in view the local needs of children.

Table 51: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Majooli Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' Value
			Mean	SD	Mean	SD		
1	Gen	Boys	5.25 N=4	2.87	-	-	-	
		Girls	3.5 N=2	2.12	9.4 N=5	4.72	5.9	1.63
		Boys & Girls	4.37 N=6	2.58	9.4 N=5	4.72	5.03	2.26*
		Girls	-	-	5.0 N=2	0.71	-	
		Boys & Girls	-	-	5.0 N=2	0.71		
3	ST	Boys	6.17 N=6	4.71	-	-		
		Girls	2.67 N=3	2.08	7.8 N=5	4.60	5.13	1.78
		Boys & Girls	4.42 N=9	4.24	7.8 N=5	4.60	3.42	1.41
4	OBC	Boys	5.0 N=6	4.05	-	-	-	
		Girls	6.33 N=3	3.21	9.0 N=7	6.68	2.67	0.65
		Boys & Girls	5.67 N=9	3.64	9.0 N=7	6.68	3.33	0.80
5	All (Gen+SC+ ST +OBC)	Boys	5.47 N=16	4.69				
		Girls	4.17 N=8	2.87	7.8 N=19	5.25	3.63	1.83
		Boys & Girls	5.69 N=24	4.11	7.8 N=19	5.25	2.11	1.47

** Significant at .01 Level, * Significant at .05 level.

On the basis of the **Table 51**, it is quite clear that the academic achievement (Hindi) of children of Class III belonging to ROT schools of Majholi block is much lower than that of their counterparts belonging to non-ROT schools.No significant difference is noticed between the mean achievements of these two groups of children. However, only in case of general (Boys and Girls) children, the difference is significant ('t' Value. = 2.26) and is in favor of children belonging to non-ROT schools.

From the results presented in the **Table 51**, it is clear that teaching-learning process taking place through EDUSAT needs a lot of improvement at teaching end as well as learning end. Children ROT schools are not in a position to compete with their counterparts of non-ROT schools. This is a serious challenge to the organizers of EDUSAT for improving the effectiveness of teaching-learning process through this technology at the primary level.

Table 52: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Majooli Block in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' Value
			Mean	SD	Mean	SD		
1	Gen	Boys	6.5 N=4	2.38	-	-	-	
		Girls	7.5 N=2	1.41	12.8 N=5	1.30	5.3	4.77**
		Boys & Girls	7.0 N=6	3.03	12.8 N=5	1.30	5.8	3.97**
		Girls	-	-	10.0 N=2	0.71	-	-
		Boys & Girls	-	-	10.0 N=2	0.71	-	-
3	ST	Boys	6.17 N=6	4.71	-	-	-	-
		Girls	2.67 N=3	2.08	11.0 N=5	7.64	8.33	1.79
		Boys & Girls	4.42 N=9	4.24	11.0 N=5	7.64	6.58	0.67
		Girls	-	-	8.0 N=7	4.16	-	-
		Boys & Girls	-	-	8.0 N=7	4.16	-	-
5	All (Gen+SC+ ST +OBC)	Boys	5.89 N=10	3.79	-	-	-	-
		Girls	5.5 N=5	3.84	1045 N=19	5.08	4.95	2.02*
		Boys & Girls	5.69 N=15	3.74	10.5 N=19	5.08	4.81	3.03**

** Significance at .01 level, * Significance at .05 level

An examination of **Table 52** provides a striking picture with regard to EDUSAT as a suitable technology for improving the teaching- learning process at the primary level. With regard to achievement of children in English, it is found that in Majholi block, teachers and students are more comfortable with classroom teaching-learning process than EDUSAT technology.

It is a surprising that achievement of children in English belonging to non-ROT schools of Majholi block is much higher than that of their counterparts of ROT schools with general girls (M=75) for ROT school and M=12.8 for non-ROT schools, ('t' value. = 4.77), (M=5.5 for ROT schools and M=10.5 for non-ROT schools, ('t' value. =2.02). These differences are statistically significant as well. These results create doubts about efficacy of EDUSAT technology with respect to improvement in teaching and learning and suggest that we need to concentrate more on improving the `quality of teaching-learning through EduSat and its utility at learning end.

Table 53: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Majooli Block in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	C.R. value
			Mean	SD	Mean	SD		
1	Gen	Boys	6.0 N=4	3.16	-	-	-	
		Girls	4.5 N=2	4.95	4.8 N=5	5.36	0.3	0.06
		Boys & Girls	5.25 N=6	3.39	4.8 N=5	5.36	0.45	0.17
		Girls	-	-	1.5 N=2	2.12		
		Boys & Girls	-	-	1.5 N=2	2.12		
3	ST	Boys	6.0 N=6	6.16	-	-	-	
		Girls	5.33 N=3	0.58	12.0 N=5	6.16	6.67	1.81
		Boys & Girls	5.67 N=9	4.89	12.0 N=5	6.16	6.33	2.12*
4	OBC	Boys	5.8 N=6	4.07	-	-	-	-
		Girls	10.3 N=3	6.43	10.7 N=7	6.83	0.3	0.06
		Boys & Girls	8.05 N=9	5.07	10.0 N=7	6.83	1.95	0.66
5	All (Gen+SC+ ST +OBC)	Boys	5.93 N=16	4.49	-	-	-	-
		Girls	5.11 N=8	3.58	5.43 N=19	6.64	0.32	0.13

		Boys & Girls	6.32 N=24	4.69	5.43 N=19	6.64	0.89	0.52

** Significant at .01 Level, * Significant at .05 level.

From the **Table 53**, it is revealed that overall academic achievement (EVS) of children belonging to ROT schools (M=6.32) is higher than that of their counterpart belonging to non-ROT schools (M=5.43). But the difference of 0.89 between two groups of children is not statistically significant ('t' value.=0.52). Similar is the situation with regard to girls as well.

With regard to the sub-group ST (Boys and Girls), the difference of 6.33 between two group of children belonging to ROT and non-ROT schools is found to be statistically significant ('t' value =2.12) and in this case also the difference is in favour of children belonging to non-ROT schools. In case of General (Boys and Girls), the difference is in favour of children belonging to ROT schools and in case of OBC (Boys and Girls), it is in favour of non-ROT schools.

Thus it may be inferred that in case of some schools the technology based teaching-learning process is gradually getting its momentum to influence the teacher and taught in the field of primary education and it supplements the classroom teaching-learning process.

Table 54: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Majholi Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	5.25 N=4	1.83	-	-	-	-
		Girls	1.5 N=2	0.71	10.5 N=5	6.23	8.9	1.91
		Boys & Girls	3.37 N=6	2.32	10.4 N=5	6.23	7.03	2.58**
		Girls	-	-	0.5 N=2	0.71	-	-
		Boys & Girls	-	-	0.5 N=2	0.71	-	-
3	ST	Boys	5.3 N=6	2.94	-	-	-	-
		Girls	6.67 N=3	1.53	7.4 N=5	5.94	0.73	0.20

		Boys & Girls	5.98 N=9	2.54	7.4 N=5	5.94	1.42	0.80
4	OBC	Boys	3.0 N=6	2.61	-	-	-	-
		Girls	3.0 N=3	3.61	8.0 N=7	5.78	5.0	1.36
		Boys & Girls	3.0 N=9	2.74	8.0 N=7	5.78	5.0	1.36
5	All (Gen+SC+ ST +OBC)	Boys	4.52 N=16	2.66	-	-	-	-
		Girls	3.72 N=8	2.88	6.57 N=19	5.82	2.85	1.30
		Boys & Girls	4.12 N=24	2.75	6.57 N=19	5.82	2.45	1.84

** Significant at .01 level, * Significant at .05 level.

Table 54 presents the academic achievement of children (in Mathematics) belonging to ROT and non-ROT schools of Majholi Block of Sidhi district.From the comparative profile presented in the above table, it is clear that mean achievement of children in Mathematics of ROT schools is lower in all groups and sub-groups than that of non-ROT schools. However, the difference is statistically significant under two sub-groups only i.e. one in case of children belonging to General category with 't' value and other in case of children belonging to OBC category with 't' value.=2.30. Except in these two sub-groups in all other cases, though the differences are in favour of children belonging to non-ROT schools, are not statistically significant. Performance of children belonging to ROT schools is very poor in comparison to non -ROT schools. This shows that a serious thought is the need of the time with regard to the effective implementation of this EduSat technology for improving the academic achievement in mathematics of primary school children.

Table 55: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Majholi Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Difference In Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	5.75 N=4	23.0	-	-	-	-
		Girls	4.25 N=2	17.0	9.35 N=5	37.4	20.4	0.53

		Boys & Girls	5.0 N=6	4.0	9.35 N=5	37.4	33.4	1.40
		Girls	-	-	4.25 N=2	17.0	-	-
		Boys & Girls		-	4.25 N=2	17.0	-	-
3	ST	Boys	5.91 N=6	23.64	-	-	-	-
		Girls	4.34 N=3	17.34	9.55 N=5	38.2	20.86	0.62
		Boys & Girls	5.13 N=9	20.5	9.55 N=5	38.2	17.7	0.72
4	OBC	Boys	4.6 N=6	18.4	-	-	-	-
		Girls	6.54 N=3	26.17	8.75 N=7	35.0	8.82	0.27
		Boys & Girls	5.57 N=9	22.28	8.75 N=7	35.0	12.72	0.17
5	All (Gen+SC+ ST +OBC)	Boys	5.42 N=16	21.68	-	-	-	0.19
		Girls	5.04 N=8	20.17	7.98 N=19	31.9	11.73	0.82
		Boys & Girls	5.23 N=24	20.92	7.98 N=19	31.9	10.98	0.82

On the basis of the perusal of **Table 55**, it is found that the mean percentage of children of Class III belonging to non-ROT schools is much higher than that of children belonging to ROT schools. Under all groups and sub-groups, the difference is not statistically significant. With regard to effectiveness of teaching-learning process through technology (EDUSAT), the situation of Majholi block is similar to that of Rampur block.This shows that in both the blocks problems at learning end need to be taken seriously for getting maximum benefit of EduSat transmission. Unless infrastructures at learning end is improved and functionaries associated with it are adequately trained, it is not possible to get the real benefit of EDUSAT network for improving academic achievement of small children in rural areas.

Table 56: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Chitrongi Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	5.0 N=4	4.67	6.7 N=3	5.86	1.70	0.43
		Girls	7.0 N=6	3.52	14.0 N=2	1.41	7.00	2.62**
		Boys & Girls	6.0 N=10	3.74	10.6 N=5	9.24	2.60	1.78
2	SC	Boys	8.0 N=2	2.83	10.6 N=3	9.24	2.60	0.34
		Girls	6.5 N=2	2.12	-	-	-	-
		Boys & Girls	7.25 N=4	2.22	10.6 N=3	9.24	3.35	0.72
3	ST	Boys	8.0 N=2	4.24	9.5 N=2	0.71	1.50	0.49
		Girls	11.5 N=2	2.12	4.0 N=3	4.36	7.50	2.18**
		Boys & Girls	9.75 N=4	3.40	7.0 N=5	4.32	2.75	1.04
4	OBC	Boys	5.5 N=2	4.95	1.5 N=2	0.71	4.00	1.13
		Girls	5.5 N=2	7.78	2.0 N=2	0.0	3.50	0.64
		Boys & Girls	5.5 N=4	5.32	1.5 N=4	0.5	4.50	1.69
5	All (Gen+SC+ ST +OBC)	Boys	6.63 N=10	3.71	7.08 N=10	6.26	0.45	5.39**
		Girls	7.63 N=12	3.98	6.67 N=7	5.94	0.96	0.31
		Boys & Girls	7.13 N=22	3.82	7.4 N=17	5.96	0.27	0.17

** Significant at .01 level, * Significant at .05 level.

It is revealed from **Table 56** that the mean achievement of children of class III in Hindi belonging to ROT and non-ROT schools of Chitrongi block are comparable to one another(M=7.13 for ROT schools and 5.96 for non-ROT block).This indicates that EDUSAT as an important information communication technology is not able to provide much to children, for their academic improvement. Again on the basis of comparison of achievement among boys, it is found that children belonging to non-

ROT school perform better than that of their ROT counterpart. There exist a significant difference (CR =5.39) among the two group of boys belonging to ROT and non -ROT schools. This difference goes in favour of children belonging to non-ROT schools. But with regard to Girls no significant difference is noticed. Again it shows the lack of effectiveness of EDUSAT with regard to academic achievement of children in Hindi.

Comparison of various group with regard to achievement in Hindi shows that no significant difference is noticed with regard to achievement of children belonging to ROT and non-ROT schools expect General Girls ('t' value = 2.62) and ST girls ('t' value =2.18). In case of Gen girls the differences goes is in favour of children belonging to non-ROT schools whereas in case of ST Girls it is in favour of ROT schools.

Table 57:Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Chitrongi Block in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1.	Gen	Boys	8.25 N=4	0.96	9.7 N=3	7.51	1.45	0.39
		Girls	8.33 N=6	3.44	7.5 N=2	3.54	0.83	0.29
		Boys & Girls	8.29 N=10	2.63	8.6 N=5	5.72	0.31	0.15
2	SC	Boys	6.0 N=2	1.41	8.7 N=3	6.03	2.70	0.59
		Girls	11.5 N=2	0.71	-	-	-	-
		Boys & Girls	8.75 N=4	3.69	8.7 N=3	6.03	0.05	0.01
3	ST	Boys	5.5 N=2	2.12	7.5 N=2	0.71	2.00	0.80
		Girls	11.0 N=2	1.41	3.7 N=3	1.15	7.30	6.40*
		Boys & Girls	8.25 N=4	3.50	5.9 N=5	2.36	2.35	1.21
4	OBC	Boys	7.5 N=2	0.71	3.5 N=2	0.71	4.00	2.83**
		Girls	11.5 N=2	2.12	3.0 N=2	0.0	8.50	9.24**
		Boys & Girls	9.5 N=4	2.65	3.25 N=4	0.5	6.25	5.78**

5	All (Gen+SC+ ST +OBC)	Boys	6.81 N=10	2.62	6.9 N=10	5.23	0.09	0.05
		Girls	10.58 N=12	6.79	3.73 N=7	3.01	6.85	2.51*
		Boys & Girls	8.69 N=22	2.76	6.6 N=17	4.70	2.09	1.74

** Significant at .01 level, * Significant at .05 level

Table 57 reflects the comparative profile of the academic achievement of children in English belonging to ROT and non-ROT schools of Chitrongi block. The facts presented in table 57 gives a clear positive feedback on the effectiveness of EDUSAT technology for improving academic standard of rural children at primary level. It is worth noting that there exist a significant difference ('t' value =2.51) among the achievement of girls and which goes in favour of children belonging to ROT schools. Similar is the situation with regard to certain sub-groups like ST Girls ('t' value =6.40), OBC Boys ('t' value =2.83), OBC Girls ('t' value =9.24) and OBC children ('t' value =5.78). In all other cases though no significant difference is noticed but in almost all cases the differences is in favour of children belonging to ROT schools except General Boys, SC Boys and ST Boys. The results indicate that in most of the cases teaching and learning through EDUSAT has positively influence the achievement of the rural background children belonging to Chitrongi block of Sidhi district.

Table 58:Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools Chitrongi Block in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	12.0 N=4	5.77	5.7 N=3	9.81	6.30	1.08
		Girls	12.8 N=6	4.83	8.0 N=2	0.0	12.80	3.56*
		Boys & Girls	12.4 N=10	4.93	5.7 N=5	9.81	6.70	1.79
2	SC	Boys	9.50 N=2	0.71	12.0 N=3	10.82	2.50	0.26
		Girls	9.50 N=2	0.71	-	-	-	-
		Boys & Girls	9.50 N=4	4.28	12.0 N=3	10.82	2.50	0.43
3	ST	Boys	8.5 N=2	0.71	0.0 N=2	0.0	8.50	17.00**
		Girls	10.0 N=2	1.41	0.0 N=3	0.0	10.0	13.51**

		Boys & Girls	9.25 N=4	1.26	0.0 N=5	0.0	9.25	16.82**
4	OBC	Boys	8.0 N=2	2.83	0.0 N=2	0.0	8.0	4.00**
		Girls	7.5 N=2	0.71	0.0 N=2	0.0	7.50	15.00**
		Boys & Girls	7.75 N=4	1.71	0.0 N=4	0.0	7.75	5.12**
5	All (Gen+SC+ ST +OBC)	Boys	9.50 N=10	3.92	4.43 N=10	8.65	5.07	1.69
		Girls	9.95 N=12	3.94	0.0 N=7	0.0	9.95	6.58**
		Boys & Girls	7.93 N=22	3.86	3.7 N=17	7.40	4.23	2.31*

** Significant at .01 Level, * Significant at .05 level.

A perusal of **Table 58** indicates that the academic achievement of children belonging to ROT schools of Chitrongi block in EVS at Standard III is higher than that of their counterparts belonging to non-ROT schools, in respect of many groups and subgroups.Again it is noticed that these differences are statistically significant except in case of General boys, SC Boys and Boys as a whole. In these three cases, though the differences are not significant, but the mean achievement of children belonging to ROT schools is higher than their non-ROT counterparts.This shows the effectiveness of EDUSAT technology in developing interest of children in teaching-learning process. Only in case of SC children, the difference is in favour of children belonging to non-ROT schools. In no other cases the non-ROT children has been able to compete with their ROT counterparts.

Table 59: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools Chitrongi Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	8.25 N=4	3.50	5.7 N=3	9.81	2.55	0.49
		Girls	8.5 N=6	3.51	0.0 N=2	0.0	8.5	3.24**
		Boys & Girls	8.38 N=10	3.51	2.9 N=5	8.50	5.48	1.80
2	SC	Boys	7.5 N=2	0.71	6.0 N=3	10.39	1.5	0.19
		Girls	13.0 N=2	1.41	-	-	-	-

		Boys & Girls	10.25 N=4	3.30	6.0 N=3	10.39	4.25	0.79
3	ST	Boys	9.0 N=2	2.83	0.0 N=2	0.0	9.0	4.50**
		Girls	12.0 N=2	1.41	0.0 N=3	0.0	12.0	16.22**
		Boys & Girls	10.5 N=4	2.52	0.0 N=5	0.0	10.5	9.54**
4	OBC	Boys	4.0 N=2	2.12	0.0 N=2	0.0	4.0	2.67**
		Girls	8.0 N=2	1.41	0.0 N=2	0.0	8.0	8.08**
		Boys & Girls	6.0 N=4	3.46	0.0 N=4	0.0	6.0	3.47**
5	All (Gen+SC+ ST +OBC)	Boys	7.18 N=10	3.24	2.93 N=10	7.38	4.25	1.67
		Girls	10.37 N=12	3.22	0.0 N=7	0.0	1037	8.43**
		Boys & Girls	8.78 N=22	3.43	3.7 N=17	7.40	5.05	2.83**

** Significant at .01 level, * Significant at .05 level.

It is revealed from **Table 59** that the mean achievement score of children belonging to ROT schools of Chitrongi Block in Mathematics is higher than that of their counterparts belonging to non-ROT schools, under all groups and sub-groups. The difference as obtained is statistically significant in almost all cases except General Boys, SC Boys, ST Boys and Boys as a whole as well. Though the difference in the above cases is not significant but their mean achievement score are on the higher side as compared to their counterparts of non-ROT schools.

The picture depicted in **Table 59** shows a clear gain in achievement of EDUSAT technology in the rural villages of Chitrongi block at primary level. Still a lot need to be improved to enhance the level of achievement of children and make them potential to compete with urban children as well.

Table 60: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Chitrongi Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Difference In Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	8.38 N=4	33.5	6.95 N=3	27.8	5.7	0.16
		Girls	9.15 N=6	36.63	5.37 N=2	21.5	15.13	0.39

		Boys & Girls	8.77 N=10	35.06	6.16 N=5	24.64	10.42	0.41
2	SC	Boys	7.75 N=2	31.0	9.33 N=3	37.3	6.3	0.05
		Girls	10.13 N=2	40.5	-	-	-	-
		Boys & Girls	8.94 N=4	35.76	9.33 N=3	37.3	1.54	0.05
3	ST	Boys	7.75 N=2	31.0	4.25 N=2	17.0	14	0.32
		Girls	11.13 N=2	44.5	3.0 N=3	12.0	32.5	0.82
		Boys & Girls	9.94 N=4	37.76	3.63 N=5	14.5	23.26	0.80
4	OBC	Boys	6.25 N=2	25.0	1.25 N=2	5.0	20.0	0.57
		Girls	8.13 N=2	32.5	1.25 N=2	5.0	27.5	0.70
		Boys & Girls	7.19 N=4	28.76	1.25 N=4	5.0	23.76	0.90
5	All (Gen+SC + ST +OBC)	Boys	7.53 N=10	30.13	5.45 N=10	21.78	8.35	0.43
		Girls	9.64 N=12	38.54	3.21 N=7	12.83	25.71	1.19
		Boys & Girls	8.58 N=22	34.34	4.33 N=17	17.32	17.02	1.18

** Significant at .01 level, * Significant at .05 level.

Table 60 shows the overall academic achievement (mean achievement) of children of Class III belonging to Chitrongi Block of Sidhi district.It also provide a comparative statement of mean academic achievement of children belonging to two types of school (ROT and non-ROT schools). As revealed form table 60, it is concluded that the mean achievement of all children irrespective of groups, sub-groups and gender are high in case of children belonging to ROT schools than that of their counterparts of non-ROT schools. At the same time, it is also noticed that the differences between two groups of children (belonging to two different schools) are not statistically significant; but these differences are in favour of children belonging to ROT schools.

It shows that EDUSAT as a technology of teaching-learning process is gradually getting its momentum to attract the attention of teachers and small children living in rural backward villages of Sidhi districts. It will be able to develop its potentiality to provide maximum benefit to our learners in the near future.

Table 61: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Devsar Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	16.33 N=3	6.03	-	-	-	-
		Girls	15.5 N=2	0.7	14.2 N=5	8.14	1.30	0.21
		Boys & Girls	15.92 N=5	4.30	14.2 N=5	8.14	1.72	0.42
2	SC	Boys	9.5 N=2	0.7	-	-	-	-
		Boys & Girls	9.5 N=2	0.7	-	-	-	-
4	OBC	Boys	13.8 N=5	3.11	9.0	12.73 N=2	4.80	0.93
		Girls	13.3 N=15	9.45	11.0	11.31 N=2	2.30	0.29
		Boys & Girls	13.55 N=20	8.25	10.0	9.89 N=4	3.55	0.76
5	All (Gen+SC+ ST +OBC)	Boys	13.21 N=10	4.32	9.0	12.73 N=2	4.21	4.39**
		Girls	14.4 N=17	8.88	12.6	8.24 N=7	1.80	0.45
		Boys & Girls	12.99 N=27	7.42	12.0	8.31 N=9	0.99	0.33

** Significant at .01 level, * Significant at .05 level.

An examination of **Table 61** gives a clear picture of the effectiveness of EduSat on the achievement of children in the subject of Hindi. The achievement of boys belonging to ROT schools of Devsar block is higher than that of boys belonging to non-ROT schools of same block and this difference is statistically significant as well. This clearly reflects the efficacy of teaching and learning through EDUSAT in the Devsar block. With regard to achievement of Girls, it is found that though Girls belonging to ROT schools secured more marks than non -ROT schools but the difference is not statistically significant. Similar is the situation with regard to certain sub-groups likes General (Girls), SC Boys and SC Girls as well. In all the above cases the differences are in favour of children belonging to ROT schools but are not statistically significant. This shows that EduSat technology is being gradually accepted by teachers as well as the learners as a suitable and effective means of teaching-learning process. Though these technologies helped to improve the academic standard of children, it has not achieved the level which is expected by its functionaries.

Table 62: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools Devsar Block in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	10.33 N=3	6.11	-	-	-	-
		Girls	14.50 N=2	0.7	14.6 N=5	4.51	0.1	0.03
		Boys & Girls	12.42 N=5	4.36	14.6 N=5	4.51	2.18	0.78
2	SC	Boys	8.0 N=2	4.24	-	-	-	-
		Boys & Girls	8.0 N=2	4.24	-	-	-	-
4	OBC	Boys	10.8 N=5	2.77	12.5 N=2	2.13	1.70	0.76
		Girls	14.6 N=15	5.94	11.5 N=2	3.54	3.10	0.71
		Boys & Girls	12.7 N=20	5.36	12.0 N=4	2.45	0.70	0.25
5	All (Gen+SC + ST +OBC)	Boys	9.71 N=10	3.87	12.5 N=2	2.13	2.79	0.96
		Girls	14.55 N=17	5.57	13.05 N=7	4.23	1.50	0.64
		Boys & Girls	11.04 N=27	5.47	12.77 N=9	3.78	1.73	0.88

It is revealed from **Table 62** that the mean achievement of all children (Boys and girls) in English belonging to non-ROT school is 12.77 which is 1.73 more than that of their ROT counterparts. This shows that the technology of EDUSAT facing competition from the conventional classroom teaching-learning process. Very similar situation is noticed with regard to certain sub-groups like boys, (M=12.5 for non-ROT school and M=9.71 for ROT schools).

A gain in achievement is noticed in OBC Girls in which where the mean achievement of children belonging to ROT schools is higher than that of their counterparts belonging to non-ROT schools.This indicates that the EDUSAT technology shows its effectiveness with in improving academic achievement of only OBC girls at primary level.

Table 63: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Devsar Block in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	21.0 N=3	2.65	-	-	-	-
		Girls	23.5 N=2	0.7	11.0 N=5	1.07	12.5	4.69**
		Boys & Girls	22.25 N=5	2.34	11.0 N=5	1.07	11.25	9.78**
2	SC	Boys	14.5 N=2	3.53	-	-	-	-
		Boys & Girls	14.5 N=2	3.53	-	-	-	-
4	OBC	Boys	20.0 N=5	4.12	5.0 N=2	7.07	15.0	3.69**
		Girls	13.4 N=15	9.45	5.5 N=2	7.78	7.9	1.12
		Boys & Girls	16.7 N=20	8.34	5.3 N=4	6.08	11.4	2.58**
5	All (Gen+SC+ ST +OBC)	Boys	18.5 N=10	4.10	5.0 N=2	7.07	13.5	3.88**
		Girls	18.45 N=17	9.19	8.25 N=7	6.07	10.20	2.79**
		Boys & Girls	17.9 N=27	7.74	8.2 N=9	8.59	9.70	3.22**

** Significance at .01 level, * Significance at .05 level

On the basis of the analysis of **Table 63**, it is found that EDUSAT is as a type of Information Communication Technology is exhibiting its efficacy in improving the level of achievement of learners at primary level. It is found that there exist a significant difference between the academic achievement (EVS) of children belonging to ROT and non-ROT schools of Devsar block of Sidhi district. It is also encouraging to note that this difference is in favour of children belonging to ROT schools i.e. where classroom teaching-learning process is being supplemented by teaching and learning through EduSat as well. Except in one of the sub-group (OBC girls) in all other cases achievement level of children belonging to ROT schools is on the higher side than that of their counterparts.

Table 64: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Devsar Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	14.33 N=3	7.63	-	-	-	-
		Girls	19.0 N=2	1.40	9.2 N=5	9.57	9.8	1.35
		Boys & Girls	16.66 N=5	6.02	9.2 N=5	9.57	7.46	1.47
2	SC	Boys	12.0 N=2	1.4	-	-	-	-
		Boys & Girls	12.0 N=2	-	-	-	-	-
4	OBC	Boys	14.6 N=5	6.19	9.0 N=2	12.73	5.60	0.84
		Girls	13.7 N=15	10.02	5.0 N=2	7.07	8.70	1.25
		Boys & Girls	14.15 N=20	9.06	7.0 N=4	8.72	7.15	1.44
5	All (Gen+SC + ST +OBC)	Boys	13.64 N=10	5.59	9.0 N=2	12.73	4.65	0.90
		Girls	16.35 N=17	9.86	7.1 N=7	8.72	9.25	2.16*
		Boys & Girls	14.27 N=27	8.18	8.1 N=9	8.70	6.17	1.62

** Significance at .01 level, * Significance at .05 level

A perusal of **Table 64** shows that a significant difference ('t' value. =2.16) in achievement of girls in Mathematics belonging to ROT and non-ROT schools is being observed and it is worth mentioning that this difference is in favour of children belonging to ROT schools. But in case of boys though the difference is in favour of children belonging to ROT schools, it is not statistically significant.

In case of all other sub-groups the mean achievement of children belonging to ROT schools is higher than that of their counterparts belonging to non-ROT schools. It shows the efficacy of EDUSAT transmission for improving the academic standard of primary school children on the one hand and an effective supplement of classroom teaching-learning process on the other hand. In respect of all groups and sub-groups the level of achievement of children belonging to ROT schools is much higher than children belonging to non-ROT schools

Table 65: Comparison of Mean Achievement of Children of Standard III belonging to ROT and Non ROT Schools of Devsar Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Difference In Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	15.49 N=3	61.99	-	-	--	-
		Girls	18.13 N=2	72.5	12.25 N=5	49.0	23.5	0.56
		Boys & Girls	16.81 N=5	67.24	12.25 N=5	49.0	18.24	0.58
2	SC	Boys	11.0 N=2	44.0	-	-	-	-
		Boys & Girls	11.0 N=2	44.0	-	-	-	-
4	OBC	Boys	14.8 N=5	59.2	8.87 N=2	35.5	23.7	0.75
		Girls	13.76 N=15	55.06	8.25 N=2	33.0	22.06	0.59
		Boys & Girls	14.28 N=20	57.12	8.56 N=4	34.24	22.88	0.83
5	All (Gen+SC+ ST +OBC)	Boys	13.76 N=10	55.05	8.87 N=2	35.5	19.55	0.50
		Girls	15.95 N=17	63.78	10.25 N=7	41.0	22.78	1.03
		Boys & Girls	14.86 N=27	59.42	9.56 N=9	38.24	21.18	1.10

On examination of **Table 65**, it is revealed that there is no significant difference between the overall academic achievement of children belonging to ROT and non-ROT schools in Devsar block of Sidhi district. But at the same time, it is encouraging to note that the performance (level of achievement) of children belonging to ROT schools is on the higher side. This shows the progress of children as a result of the additional support to them through EduSat network.. It is a great achievement as the result of teaching and learning through EDUSAT. The support provided through EDUSAT is getting popularity day by day and this technology is showing a positive impact on the teachers and learners of Devsar block to a great extent.

Table 66: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON ROT Schools of Waidhan Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	18.0 N=2	4.24	13.5 N=2	0.71	4.5	1.48
		Girls	6.55 N=13	8.54	14.5 N=2	0.71	7.95	1.27
		Boys & Girls	12.27 N=15	7.42	14.0 N=4	0.82	1.73	0.46
2	SC	Boys	10.67 N=3	11.59	14.2 N=5	5.07	3.53	0.61
		Girls	8.12 N=17	8.53	16.5 N=2	3.54	8.38	1.34
		Boys & Girls	9.39 N=20	8.45	15.4 N=7	4.53	6.01	1.79
3	ST	Boys	11.0 N=2	9.89	7.5 N=2	2.12	3.5	0.49
		Girls	10.0 N=3	3.46	6.5 N=2	3.54	3.5	1.10
		Boys & Girls	10.5 N=5	5.55	7.0 N=4	2.45	3.5	1.16
4	OBC	Boys	10.0 N=8	9.13	14.5 N=2	6.36	4.5	0.64
		Girls	5.33 N=3	0.58	-	-	-	-
		Boys & Girls	7.66 N=11	7.95	14.5 N=2	6.36	6.84	1.14
5	All (Gen+SC+ ST +OBC)	Boys	12.42 N=15	8.76	12.43 N=11	4.70	0.01	0.003
		Girls	7.5 N=36	8.42	12.50 N=6	6.73	5.00	1.38
		Boys & Girls	11.69 N=51	8.27	12.7 N=17	4.74	1.01	0.48

Table 66 indicates the performance in Hindi of children of class III of two types of school in Waidhan block of Sidhi district. From the above table it is clearly observed that mean achievement of children of non-ROT schools (M=12.7) is higher than that of ROT (M=8.27) schools. Similar is the situation with regard to the mean achievement of boys and girl. In case of boys, the mean difference is 3.67 and in case of girls it is 5.00. The differences though are not statistically significant, are in favour of children of ROT schools.

In case of certain sub-groups like Gen boys, Gen girls, SC boys, SC girls, ST girls and OBC boys, the mean achievement is higher in case of children of non-ROT schools. But only in one sub-group i.e. SC boys, the difference is in favour of children of ROT schools.Though the above differences are not significant.These results suggest that despite the use of EDUSAT technology, the academic achievement of children belonging to ROT schools is lower than their counterparts. It raises several questions with regard to effectiveness of the implementation of EDUSAT in the rural villages of Sidhi district. Another important aspect is that Waidhan is comparatively a advanced block but here also needs we find lower achievement of children of ROT schools.This aspect to be taken care of for improving the transmission through EduSat.

Table 67: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Waidhan Block in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	19.0 N=2	0.0	13.0 N=2	1.41	6.0	6.03**
		Girls	9.92 N=13	7.49	12.5 N=2	0.71	2.58	0.47
		Boys & Girls	10.4 N=15	6.23	12.75 N=4	0.96	1.71	0.54
2	SC	Boys	11.33 N=3	7.77	14.8 N=5	1.64	3.47	1.01
		Girls	9.47 N=17	6.27	16.0 N=2	2.83	6.53	1.43
		Boys & Girls	10.4 N=20	6.32	15.4 N=7	1.86	5.00	1.09
3	ST	Boys	16.0 N=2	1.41	12.5 N=2	4.95	3.50	0.96
		Girls	9.67 N=3	4.16	19.5 N=2	2.12	9.83	2.98
		Boys & Girls	12.83 N=5	4.15	16.0 N=4	3.32	3.17	1.12
4	OBC	Boys	12.5 N=8	4.81	12.5 N=2	0.71	0.0	0.0
		Girls	5.67 N=3	1.53	-	-	-	-
		Boys & Girls	9.09 N=11	5.18	12.5 N=2	0.71	3.41	0.89
5	All (Gen+SC+	Boys	14.7 N=15	5.21	13.2 N=11	2.25	1.50	0.89

	ST +OBC)	Girls	8.68 N=36	6.34	16.0 N=6	5.79	7.32	2.65**
		Boys & Girls	11.69 N=51	6.94	14.4 N=17	2.20	2.71	1.72

** Significance at .01 level, * Significance at .05 level

On examination of **Table 67**, it is found that the performance of children in English is almost similar to that of Hindi except a few cases.In Hindi, no significant difference is found whereas in case of English the difference is found to be statistically significant in some groups. For example, the mean achievement of Girls of ROT schools (M=8.68) is lower than that of non-ROT schools (M=16.00) with 't' value value of 2.65. Similar is the situation in case of certain sub-groups like ST Girls M=9.67 for ROT schools and M=19.5 for non-ROT schools whereas mean difference of 9.83 is significant ('t' value =2.98) is in favour of achievement of non-ROT school.

Reverse is the situation with regard to achievement of Gen Boys with M=19.00 for ROT school children and M=13.00 for non-ROT school children. A difference of 6.0 which is found to be statistically significant ('t' value. =6.03) is in favour of children of ROT schools. The teaching through EDUSAT has given mixed result in case of achievement of children in English. This clearly shows that more effort is needed to improve the teaching-learning process through EduSat technology is English.

Table 68: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Waidhan Block in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	19.0 N=2	0.0	15.5 N=2	0.71	3.5	4.17**
		Girls	9.46 N=13	7.95	14.5 N=2	-	5.04	0.86
		Boys & Girls	14.23 N=15	6.28	15.0 N=4	0.82	0.77	0.24
2	SC	Boys	12.67 N=3	10.69	19.0 N=5	1.87	6.33	1.36
		Girls	7.88 N=17	7.90	16.5 N=2	2.12	8.62	1.50
		Boys & Girls	10.27 N=20	8.23	17.8 N=7	2.14	7.53	2.36**

3	ST	Boys	12.5 N=2	7.78	14.5 N=2	6.37	2.00	0.26
		Girls	10.0 N=3	3.46	12.0 N=2	4.24	2.00	0.58
		Boys & Girls	11.25 N=5	4.79	13.0 N=4	4.65	1.75	0.55
4	OBC	Boys	12.25 N=8	7.19	12.5 N=2	0.71	0.25	0.05
		Girls	5.33 N=3	2.31	-	-	-	-
		Boys & Girls	8.79 N=11	6.63	12.5 N=2	0.71	3.71	0.76
5	All (Gen+SC+ ST +OBC)	Boys	14.16 N=15	7.21	15.37 N=11	3.58	1.21	0.51
		Girls	8.17 N=36	7.46	14.33 N=6	2.94	6.16	1.97*
		Boys & Girls	11.13 N=51	7.83	14.7 N=17	3.43	3.57	1.81

** Significance at .01 level, * Significance at .05 level

Table 68 gives a comparative statement of mean achievement of children of Standard III in EVS of ROT schools and non-ROT schools. It is observed that the results are quite similar to mean achievement of children in English.

With regard to mean achievement of boys (in EVS) the difference between the two group of children is 1.21 and IS in favour of non -ROT school but statistically not significant. But in case of girls the difference is much more i.e. 6.16 (M=8.17 for ROT and M=14.33 for non -ROT schools) which is statistically significant ('t' value=1.97). Besides this in case of all sub-groups the difference is in favour of children of non -ROT schools (except general boys) but found to be significant only in one case i.e. SC (Boys and Girls) children. In case of SC children of ROT the M=10.27 school and M=17.8 for non-ROT school.The difference of 7.53 is statistically significant ('t' value =2.36).

It is surprising to note that only in case of general boys the mean difference of 3.5 is in favour of children of ROT schools and is found to be statistically significant ('t' value = 4.17) as well. This shows greater awareness and efforts of General category children over others with regard to the use of technology for educational purposes.

Table 69: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Waidhan Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	24.5 N=2	0.71	13.5` N=2	0.71	11.0	15.49**
		Girls	8.85 N=13	9.64	15.5 N=2	0.71	6.65	0.94
		Boys & Girls	16.67 N=15	7.83	14.5 N=4	1.29	2.17	0.54
2	SC	Boys	9.0 N=3	8.14	11.6 N=5	5.18	2.60	0.56
		Girls	8.59 N=17	7.05	15.0 N=2	2.83	6.41	1.19
		Boys & Girls	8.79 N=20	7.05	13.3 N=7	4.69	4.51	1.57
3	ST	Boys	12.5 N=2	16.26	14.0 N=2	8.49	1.50	0.11
		Girls	9.67 N=3	4.93	12.5 N=2	0.71	2.83	1.04
		Boys & Girls	11.08 N=5	9.02	13.3 N=4	5.12	2.22	0.44
4	OBC	Boys	9.47 N=8	7.96	14.0 N=2	5.65	4.53	0.74
		Girls	7.0 N=3	0.0	-	-	-	-
		Boys & Girls	8.63 N=11	6.83	14.0 N=2	5.65	5.37	1.04
5	All (Gen+SC+ ST +OBC)	Boys	13.86 N=15	9.43	13.27 N=11	4.75	0.59	0.18
		Girls	8.53 N=36	8.38	14.33 N=6	2.37	5.80	1.66
		Boys & Girls	11.29 N=51	9.12	13.7 N=17	4.02	2.41	1.05

** Significance at .01 level, * Significance at .05 level

A perusal of **Table 69** indicates the comparative profile of children of ROT and non-ROT schools in achievement of Mathematics. On the basis of the comparison of mean achievement under different groups and sub-groups, it is found that a significant difference is noticed only in one sub group i.e. General Boys with M=24.5 for Boys of ROT school and M=13.5 for non-ROT schools. The difference of 15.49 is in favour of children of ROT school which is statistically significant ('t' value. =15.49).

The overall comparison of Gen children (boys and Girls) shows that mean achievement of ROT school children (M=16.67) is higher than that of non-ROT school children (M=14.5) though the difference of (2.17) is not statistically significant. Similar is the situation with regard to the comparison of mean achievement of boys as a whole where the mean difference of 0.59 is in favour of children of ROT schools is very small and statistically not significant.

It may be noted that except the above three groups/sub-groups in all other cases the differences though statistically not significant are in favour of children of non -ROT schools. It shows that the benefits of EDUSAT technology have reached a very small target group. Thus, much improvement needs to be made so that the benefits of this technology could reach more rural children.

Table 70: Comparison of Mean Academic Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Waidhan Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Difference In Mean %	C.R. Value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	20.13 N=2	80.5	13.87 N=2	55.5	25	0.54
		Girls	8.69 N=13	34.78	14.25 N=2	57.0	22.22	0.60
		Boys & Girls	14.41 N=15	57.64	14.06 N=4	56.24	1.4	0.05
2	SC	Boys	10.92 N=3	43.67	14.9 N=5	59.6	15.93	0.04
		Girls	8.52 N=17	34.06	16.0 N=2	64.0	29.94	0.82
		Boys & Girls	9.72 N=20	38.88	15.45 N=7	61.8	22.92	1.05
3	ST	Boys	13.0 N=2	52.0	12.13 N=2	48.5	3.5	0.07
		Girls	9.84 N=3	39.34	12.63 N=2	50.5	11.16	0.25
		Boys & Girls	11.42 N=5	45.68	12.38 N=4	49.52	3.84	0.11
4	OBC	Boys	11.06 N=8	44.22	13.37 N=2	53.5	9.28	0.23
		Girls	5.83 N=3	23.33	-	-	-	-
		Boys & Girls	8.45 N=11	33.8	13.37 N=2	53.5	19.7	0.53

5	All (Gen+SC+ ST +OBC)	Boys	13.78 N=15	55.11	13.56 N=11	54.24	0.87	0.04
		Girls	8.22 N=36	32.88	14.29 N=6	57.17	24.29	1.15
		Boys & Girls	11.0 N=51	44.0	13.93 N=17	55.7	11.7	0.84

It is revealed from **Table 70** that there is no significant difference between the overall academic achievement of children belonging to ROT and non-ROT schools of Waidhan block. Almost in all cases the mean achievement (or mean percentage) of children of non-ROT schools is on the higher side than that of ROT schools, except General Boys, ST Boys, and Boys as a whole.

It is interesting to note that in Waidhan block the achievement of General Boys of ROT schools is higher in all subjects than that of their counterparts of non-ROT schools. This indicates greater awareness and improvement of children of General Category over others and parental cares may also have contributed for the same. We need to improve the basic minimum standard of other category of children also with the help of parental guidance and counseling for making the system of EduSat technology a real investment to improve the quality of elementary education in our country.

Table 71: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Sihawal Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	C.R. value
			Mean	SD	Mean	SD		
1	Gen	Boys	11.33 N=3	2.52	13.0 N=2	0.0	1.67	0.89
		Girls	11.43 N=7	4.72	10.8 N=4	3.78	0.63	0.23
		Boys & Girls	11.8 N=10	4.03	11.9 N=6	3.15	0.52	0.26
2	SC	Boys	10.75 N=4	4.35	11.8 N=2	1.06	1.05	1.62
		Girls	4.67 N=3	3.21	-	-	-	-
		Boys & Girls	7.71 N=7	4.84	11.8 N=2	1.06	4.09	1.13 1.13
3	ST	Boys	4.33 N=3	2.08	14.0 N=1	0.71	9.67	6.08**
		Girls	6.0 N=2	1.41	-	-	-	-

		Boys & Girls	5.17 N=5	1.87	14.0 N=1	0.71	8.83	6.22**
4	OBC	Boys	5.9 N=14	3.97	13.2 N=3	1.44	7.30	3.09**
		Girls	5.4 N=5	1.14	11.6 N=3	0.87	5.60	7.27**
		Boys & Girls	5.65 N=19	3.43	12.1 N=6	1.59	6.45	4.45**
5	All (Gen+SC+ ST +OBC)	Boys	8.08 N=24	4.33	13.0 N=8	1.16	4.92	3.15**
		Girls	6.87 N=17	4.57	10.9 N=7	2.72	4.03	2.21*
		Boys & Girls	7.48 N=41	4.54	12.5 N=15	2.44	5.02	4.15**

** Significance at .01 level, * Significance at .05 level

On examination of **Table 71**, it is revealed that there exists a significant difference between mean achievement in Hindi of two group of students (ROT and non-ROT schools) of Sihawal block of Sidhi district in many cases like ST Boys ('t' value. =2.59), OBC Boys ('t' value =2.93), all boys ('t' value =2.57) and all Boys and Girls ('t' value=2.75) This difference is in favour of children belonging to non-ROT schools. It is a great challenge to the functionaries who are concerned about the impact/effectiveness of EduSat technology for the academic achievement of primary school children. Again with regard to other groups like General (Boys and Girls), SC boys and all Girls also the differences are in favour of children of non-ROT schools though they are not found to be statistically significant.

From the above analysis it is noticed that EDUSAT technology in respect of teaching-learning process fails as an effective to compete with teaching and learning provided by teachers in real classroom. It suggests that the system must be modified to achieve the target in a more meaningful way. Simply mechanical transmission of subject content will not be helpful in achieving the desired results.

Table 72: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON ROT Schools of Sihawal Block in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	14.0 N=3	4.0	15.0 N=2	0.0	1.00	0.34
		Girls	15.28 N=7	2.87	15.3 N=4	2.36	0.02	0.01

		Boys & Girls	14.64 N=10	3.07	14.2 N=6	2.04	0.44	0.31
2	SC	Boys	13.25 N=4	2.50	15.0 N=2	0.0	1.75	0.94
		Girls	10.67 N=3	5.13			-	-
		Boys & Girls	11.96 N=7	3.72	15.0 N=2	0.0	3.04	1.10
3	ST	Boys	10.0 N=3	2.0	14.0 N=1	0.71	4.00	2.59**
		Girls	8.5 N=2	9.12	-	-	-	-
		Boys & Girls	9.25 N=5	4.88	14.0 N=2	0.71	4.75	1.29
4	OBC	Boys	9.71 N=14	2.87	14.7 N=3	0.58	4.99	2.93**
		Girls	9.80 N=5	3.56	10.0 N=3	0.0	0.20	0.09
		Boys & Girls	9.75 N=19	2.89	12.4 N=6	2.58	2.65	1.51
5	All (Gen+SC+ ST +OBC)	Boys	11.74 N=24	3.17	14.67 N=8	0.46	2.93	2.57**
		Girls	10.06 N=17	4.79	12.65 N=7	2.41	2.59	1.92
		Boys & Girls	11.68 N=41	4.31	13.9 N=15	2.19	3.22	2.75**

** Significance at .01 level, * Significance at .05 level

It is revealed from the results presented in the **Table 72** that the overall achievement of Boys. Girls and all children of non-ROT school in English is on the higher side than their counterparts belonging to ROT schools.The differences of 4.92, 4.03 and 5.02 respectively are statistically significant as well. Similar is the situation with regard to mean achievement of certain sub-group like OBC Boys, OBC Girls, ST Boys and ST Girls, where the mean differences are in favour of children of non-ROT schools.

It may be noted that only in one sub group i.e. General Girls the difference is in favour of children of ROT schools whereas in all other cases the mean differences are in favour of children of non -ROT schools. It is a matter of serious concern to the functionaries about the with regard to improving the quality of EDUSAT transmission for providing academic benefits to target groups.The results also suggest that the requirements at learning centers must be improved for effective implementation of this information communication technology.

Table 73: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Sihawal Block in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	14.0 N=3	7.81	19.5 N=2	4.95	5.50	0.86
		Girls	14.14 N=7	6.35	17.7 N=4	4.57	3.56	0.97*
		Boys & Girls	14.07 N=10	6.40	18.6 N=6	4.27	4.53	1.66
2	SC	Boys	12.75 N=4	8.62	18.5 N=2	3.53	5.75	0.87
		Girls	6.0 N=3	2.0	-	-	-	-
		Boys & Girls	9.38 N=7	7.04	18.5 N=2	3.53	9.12	1.71
3	ST	Boys	3.67 N=3	2.52	13.0 N=2	0.0	9.33	4.96**
		Girls	9.0 N=2	1.41	-	-	-	-
		Boys & Girls	6.34 N=5	3.49	13.0 N=2	0.0	6.66	2.55*
4	OBC	Boys	5.71 N=14	3.05	22.0 N=3	1.0	16.29	8.95**
		Girls	7.8 N=5	2.77	11.7 N=3	5.13	3.90	1.43
		Boys & Girls	6.90 N=19	3.52	16.8 N=6	6.55	9.90	4.56**
5	All (Gen+SC+ ST +OBC)	Boys	9.03 N=24	6.09	18.25 N=8	4.08	9.22	3.97**
		Girls	9.24 N=17	5.93	14.7 N=7	5.45	5.46	1.15
		Boys & Girls	9.17 N=41	6.34	16.7 N=15	4.98	7.53	4.16**

** Significance at .01 level, * Significance at .05 level

On perusal of the **Table 73**, it is found that there is a difference in mean achievement of different groups of children of Standard III in EVS. In all groups and sub-groups the differences are in favour of children of non-ROT schools and significant in case of ST Boys ('t' value. = 4.96), ST ('t' value =2.55), OBC Boys ('t' value = 8.95), OBC ('t' value. = 4.56), all Boys ('t' value.=3.97) and all Boys and Girls ('t' value. = 4.16).The situation is more or less similar to the results as found in case of achievement of children in English.

In Sihawal block the performance of children is lower in case of ROT schools than that of non-ROT schools. This reflects the poor quality of EDUSAT transmission and its infrastructure at learning end. It suggests a thorough improvement of the entire system of EDUSAT network and its utility at learning end.

Table 74: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON ROT Schools of Sihawal Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	9.33 N=3	2.52	15.0 N=2	1.41	5.67	2.48*
		Girls	8.0 N=7	1.27	13.0 N=4	2.16	5.00	5.15**
		Boys & Girls	8.67 N=10	1.58	14.0 N=6	2.07	5.33	5.85**
2	SC	Boys	9.25 N=4	1.41	12.3 N=2	5.03	3.05	1.26
		Girls	6.67 N=3	2.52	-	-	-	-
		Boys & Girls	7.96 N=7	3.53	12.3 N=2	5.03	4.34	1.60
3	ST	Boys	5.67 N=3	5.57	7.0 N=1	0.0	1.33	0.32
		Girls	6.50 N=2	7.07	-	-	-	-
		Boys & Girls	6.09 N=5	4.30	7.0 N=2	0.0	0.91	0.28
4	OBC	Boys	5.71 N=14	3.05	6.3 N=3	2.52	1.50	0.91
		Girls	7.8 N=5	1.79	6.3 N=3	2.52	1.50	0.91
		Boys & Girls	6.75 N=19	2.88	10.3 N=6	5.24	3.55	2.16*
5	All (Gen+SC+ ST +OBC)	Boys	7.49 N=24	3.49	12.15 N=8	3.82	4.66	3.19**
		Girls	7.24 N=17	2.49	9.65 N=7	4.14	2.41	1.81
		Boys & Girls	7.37 N=41	3.35	10.9 N=15	4.11	3.53	3.29**

** Significant at .01 Level, * Significant at .05 level.

Table 74 presents a comparative profile of mean achievement of children in Mathematics. It is found that in case of children belonging to general category there is a significant difference between the mean achievement in mathematics of ROT schools and non-ROT schools. This difference is in favour of children of non -ROT schools (Boys 't' value. =2.48, Girl 't' value.=5.15 and Boys & Girls 't' value =5.85). Similar is the situation in case of OBC Boys ('t' value.= 4.27), OBC Boys +Girls ('t' value=2.16), all Boys ('t' value.=3.19) and all Boys & Girls ('t' value. =3.09).

In case of children belonging to SC (Boys) and SC (Girls), the mean differences are not significant but are in favour of children of non-ROT schools. This shows that the classroom teaching in comparison to teaching through EDUSAT is more effective and well conceived by children in Sihawal block.These results suggest that far deriving the benefit of information technology (EDUSAT) and providing quality educational inputs to children at primary level, we need to improve the quality of teaching and learning through EduSat technology.

Table 75: Comparison of Mean Academic Achievement of Children of Standard III belonging to ROT and Non ROT Schools of Sihawal Block

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Difference In Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	12.16 N=3	46.66	15.63 N=2	62.5	15.84	0.31
		Girls	24.43 N=7	97.7	14.2 N=4	56.8	40.9	1.36
		Boys & Girls	18.29 N=10	73.18	14.92 N=6	59.66	13.52	0.56
2	SC	Boys	11.5 N=4	46.0	14.4 N=2	57.6	11.6	0.26
		Girls	7.00 N=3	28.0	-	-	-	-
		Boys & Girls	9.25 N=7	37.0	14.4 N=2	57.6	20.6	0.52
3	ST	Boys	5.92 N=3	23.67	12.0 N=1	48.0	24.33	0.46
		Girls	7.50 N=2	30.0	-	-	-	-
		Boys & Girls	6.71 N=5	26.84	12.0 N=1	48.0	21.16	0.42
4	OBC	Boys	6.76 N=14	27.03	16.05 N=3	64.2	37.17	1.24
		Girls	7.7 N=5	30.8	9.75 N=3	39.0	8.2	0.23

		Boys & Girls	7.23 N=19	28.92	12.9 N=6	51.9	22.98	1.00
5	All (Gen+SC+ ST +OBC)	Boys	9.09 N=24	36.34	14.52 N=8	58.08	21.74	1.89
		Girls	11.66 N=17	46.63	11.98 N=7	47.9	1.27	0.06
		Boys & Girls	10.37 N=41	41.5	13.25 N=15	53.0	11.5	0.77

** Significance at .01 level, * Significance at .05 level

Table 75 reflects the mean achievement and mean percentage of children of standard III belonging to ROT and non-ROT schools Sihawal block of Sidhi district. From the critical ratio values presented in **table 75**, it is concluded that these differences are not significant. However, these differences are in favour of children of non-ROT schools except under one sub group i.e. General girls (M=24.43 for ROT schools and M=14.2 for non-ROT schools).It presents a great challenge to the functionaries about the potentiality and effectiveness of EduSat for achieving the desired level of quality elementary education as the performance of children of ROT schools is low in all group and sub-groups.

Table 76: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Sidhi Block in Hindi

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	6.0 N=5	2.74	-	-	-	-
		Girls	8.0 N=4	5.35	-	-	-	-
		Boys & Girls	7.0 N=9	3.95	-	-	-	-
2	SC	Boys	6.75 N=4	5.91	2.0 N=2	2.83	4.75	1.03
		Girls	8.5 N=4	6.61	-	-	-	-
		Boys & Girls	7.63 N=8	4.88	2.0 N=2	2.83	5.63	1.21
3	ST	Boys	7.75 N=4	3.78	-	-	-	-
		Girls	5.75 N=4	3.30	3.0 N=3	3.0	2.75	1.13
		Boys & Girls	6.75 N=8	3.45	3.0 N=3	3.0	3.75	1.65

4	OBC	Boys	6.75 N=4	3.86	4.8 N=4	3.40	1.95	0.79
		Girls	2.4 N=5	0.89	6.5 N=2	2.12	4.10	3.78**
		Boys & Girls	4.57 N=9	3.35	5.7 N=6	2.94	1.13	0.93
5	All (Gen+SC+ ST +OBC)	Boys	6.81 N=17	3.78	3.4 N=6	3.30	3.41	1.96*
		Girls	6.16 N=17	4.74	4.75 N=5	3.05	1.42	0.63
		Boys & Girls	6.49 N=34	4.25	3.6 N=11	3.02	2.89	2.08**

** Significance at .01 level, * Significance at .05 level

On the basis of the perusal of the results presented in **Table 76**, it is found that there is a significant difference between the mean achievement of all boys of Std. III in Hindi of ROT and non-ROT schools (M=6.81 for ROT schools and M=3.4 for non-ROT schools, 't' value. =1.96). But in case of girls though the mean difference of 1.42 is in favour of girls of ROT schools but it is not statistically significant ('t' value.=0.63).Again on the basis of the comparative profile of all children (boys and girls), it is observed that mean achievement of ROT school children (M=6.49) is higher than that of non-RTO school children (M=3.6) and the difference of 2.89 is statistically significant ('t' value. =2.08). Similar is the situation with regard to the sub-group OBC girls ('t' value =3.98). This shows the true impact of EDUSAT technology for improving the academic standard of children in Sidhi block which is the district head quarter of Sidhi.

In case of other sub-groups also the mean differences are in favour of children of ROT schools though these are not statistically significant. These results sow that EduSat technology is gradually improving the academic performance of children at the primary level. This situation is quite opposite to that of Waidhan Block of Sidhi district.

Table 77: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Sidhi Block in English

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' value
			Mean	SD	Mean	SD		
1	Gen	Boys	8.4 N=5	5.86	-	-	-	-
		Girls	10.0 N=4	5.23	-	-	-	-

		Boys & Girls	9.2 N=9	5.31	-	-	-	-
2	SC	Boys	10.0 N=4	5.35	2.5 N=2	2.12	7.5	1.82
		Girls	8.75 N=4	6.29	-	-	-	-
		Boys & Girls	9.37 N=8	5.45	2.5 N=2	2.12	6.87	2.70**
3	ST	Boys	9.25 N=4	3.40	-	-	-	-
		Girls	6.0 N=4	2.45	3.3 N=3	0.58	2.7	1.82
		Boys & Girls	7.63 N=8	3.25	3.3 N=3	0.58	4.33	2.22**
4	OBC	Boys	9.75 N=4	6.24	6.0 N=4	3.56	3.75	1.14
		Girls	5.8 N=5	3.03	2.0 N=2	1.41	3.80	1.63
		Boys & Girls	7.78 N=9	4.85	4.0 N=6	3.50	3.78	1.64
5	All (Gen+SC + ST +OBC)	Boys	9.35 N=17	4.88	4.25 N=6	3.43	5.10	2.34**
		Girls	7.64 N=17	4.40	2.65 N=5	1.09	4.99	2.47**
		Boys & Girls	8.49 N=34	4.72	3.3 N=11	2.74	5.19	3.44**

** Significance at .01 level, * Significance at .05 level

Table 77 reflects the performance in English of standard III of children belonging to Sidhi block (ROT schools and non-ROT schools). From the results presented in the Table,it is quite clear that teaching-learning process through EduSat is quite effective for improving the performance of the children belonging to ROT schools. Their counterparts of non-ROT schools have lower mean achievement level which indicates a real achievement of EduSat technology.

In case of SC (boys + girls) with 't' Value =2.70, ST (boys and girls) with 't' Value= 2.22, all boys with 't' Value= 2.34, all girls with 't' Value=2.47 and all (boys and girls) with 't' Value =3.44. There is a significant difference between the mean achievement of the children belonging to ROT and non ROT schools.These differences are in favour of ROT schools. In case of all other sub groups the differences are also in favour of children of ROT school though not statistically significant. This reflects the efficacy of EduSat technology and its positive impact on the achievement of children in English.

Table 78: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Sidhi Block in EVS

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' Value
			Mean	SD	Mean	SD		
1	Gen	Boys	15.6 N=5	3.58	-	-	-	-
		Girls	13.25 N=4	2.94	-	-	-	-
		Boys & Girls	14.43 N=9	5.48	-	-	-	-
2	SC	Boys	12.25 N=4	4.57	0.0 N=2	0.0	12.25	3.57**
		Girls	10.25 N=4	5.74	-	-	-	-
		Boys & Girls	11.25 N=8	4.92	0.0 N=2	0.0	11.25	-
3	ST	Boys	11.0 N=4	5.63	-	-	-	-
		Girls	13.0 N=4	4.83	0.0 N=3	0.0	13.0	3.09**
		Boys & Girls	12.0 N=8	5.07	0.0 N=3	0.0	12.0	3.96**
4	OBC	Boys	13.0 N=4	7.39	0.5 N=4	1.0	12.5	3.35**
		Girls	10.8 N=5	8.47	0.0 N=2	0.0	10.8	1.70
		Boys & Girls	11.9 N=9	7.59	0.3 N=6	0.81	11.60	3.68**
5	All (Gen+SC+ ST +OBC)	Boys	12.96 N=17	5.57	0.25 N=6	0.75	12.71	5.47**
		Girls	11.83 N=17	5.73	0.0 N=5	0.0	11.83	4.48**
		Boys & Girls	12.39 N=34	5.37	0.1 N=11	0.60	12.29	7.49**

** Significance at .01 level, * Significance at .05 level

On the basis of the examination of **Table 78** it is noticed that mean achievement of children of ROT schools in EVS is exceptionally higher than their counterparts of non-ROT schools. On the basis of comparison, it is found that there exists a significant difference between the mean achievement of children of Std III belonging to two types of school (ROT schools and non-ROT schools). It is worth noting that in case of all groups and sub-groups, the difference is in favour of children of ROT schools except only in one case i.e. OBC Girls (M=13.0 for ROT schools and M=0.0 for non-ROT schools, 't' Value.=1.70) though it is in favour of ROT schools.

These results of Sidhi block exhibit a positive impact of EduSat on academic performance of children in EVS and indicate that learning ends in the use of EDUSAT technology in Sidhi block are well structured and teachers at these ends are serious about the transmission and concentrate more in providing maximum benefit to children through the additional input of EduSat programme.

Table 79: Comparison of Mean Achievement of Children of Standard III belonging to ROT and NON-ROT Schools of Sidhi Block in Mathematics

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Mean Difference	't' Value
			Mean	SD	Mean	SD		
1	Gen	Boys	13.8 N=5	6.18	-	-	-	-
		Girls	13.0 N=4	4.16	-	-	-	-
		Boys & Girls	13.4 N=9	5.08	-	-	-	-
2	SC	Boys	13.0 N=4	6.16	1.0 N=2	1.41	12.0	2.58**
		Girls	10.0 N=4	7.16	-	-	-	-
		Boys & Girls	11.50 N=8	6.39	1.0 N=2	1.41	10.50	2.21*
3	ST	Boys	17.0 N=4	4.54	-	-	-	-
		Girls	9.0 N=4	6.40	1.30 N=3	2.31	7.70	1.95
		Boys & Girls	13.0 N=8	5.92	1.30 N=3	2.31	11.70	3.24**
4	OBC	Boys	11.75 N=4	4.03	0.5 N=4	1.0	11.25	5.86**
		Girls	9.0 N=5	8.94	2.5 N=2	2.12	6.50	0.96
		Boys & Girls	10.38 N=9	6.94	1.5 N=6	1.60	8.88	3.04**
5	All (Gen+SC+ ST +OBC)	Boys	13.88 N=17	5.23	1.25 N=6	1.04	12.63	5.77**
		Girls	10.25 N=17	6.56	1.90 N=5	2.05	8.35	2.76**
		Boys & Girls	12.07 N=34	5.36	1.30 N=11	1.60	10.77	6.53**

** Significance at .01 level, * Significance at .05 level

It is clearly indicated from the results presented in the **Table 79** that the main achievement of children (both boys and girls) in mathematic is higher in case of children of ROT schools than that of non-ROT schools. The mean differences are statistically significant as well.This is a clear indication of the effectiveness of EduSat technology for improving academic standard of children of Sidhi block. Similar is the situation in case of certain sub-groups like SC boys ('t' Value =2.58), SC boys and girls ('t' Value =2.21) ST boys and girls ('t' Value =3.24), OBC boys ('t' Value =5.86) and OBC boys & girls ('t' Value =3.04). In very few cases like ST girls ('t' Value =1.95) and OBC girls ('t' Value =0.96) though the difference is in favour of children of ROT schools the differences are not statistically significant. It is interesting to note that under all groups and sub-groups the mean achievement of ROT school children exceeds the mean achievement of non-ROT school children which indicates a clear gain in performance of children of ROT schools through EduSat transmission.

Table 80 : Comparison of Mean Academic Achievement of Children of Standard III belonging to ROT and NON-ROT Schools

S. No.	Category	Gender	ROT Schools		Non ROT Schools		Diff. in Mean %	C.R. value
			Mean	Mean %	Mean	Mean %		
1	Gen	Boys	10.95 N=5	43.8	-	-	-	-
		Girls	11.06 N=4	44.25	-	-	-	-
		Boys & Girls	6.01 N=9	24.02	-	-	-	-
2	SC	Boys	10.5 N=4	42.0	1.37 N=2	5.5	36.5	0.92
		Girls	6.88 N=4	27.50	-	-	-	
		Boys & Girls	8.69 N=8	34.76	1.37 N=2	5.5	29.26	0.76
3	ST	Boys	11.25 N=4	45.0	-	-	-	-
		Girls	8.44 N=4	33.75	1.90 N=3	7.6	26.15	0.82
		Boys & Girls	9.85 N=8	39.38	1.90 N=3	7.6	31.78	1.17
4	OBC	Boys	8.63 N=4	34.5	2.95 N=4	11.8	22.7	0.76

		Girls	7.0 N=5	28.0	2.75 N=2	11.0	17.0	0.48
		Boys & Girls	7.82 N=9	31.26	2.85 N=6	11.4	19.86	0.94
5	All (Gen+SC+ ST +OBC)	Boys	10.33 N=17	41.33	2.16 N=6	8.64	32.69	1.46
		Girls	3.35 N=17	13.4	2.33 N=5	9.33	4.07	1.05
		Boys & Girls	9.34 N=34	27.36	2.45 N=11	8.98	18.38	1.78

** Significance at .01 level, * Significance at .05 level

An examination of the results presented in the **Table 80** reveals that the mean achievement and mean percentage of children of ROT schools are much higher than that of their counter parts of non-ROT schools under all groups and sub-groups. The mean percentage of ROT schools exceeds that of the non-ROT schools. These results indicate shows that teaching-learning process through television (Edusat technology) has helped the children of ROT schools to achieve more in comparison to their counterparts. The technology has enhanced the academic standard of ROT school children as well as developed their curiosity and interest in teaching-learning process.

It is note worthy that Sidhi being the district headquarters, the functionaries' i.e. teachers, BRCC/CRCC and other administrators are more serious in making the EduSat technology more effective. They organize the learning ends systematically and always try to take more benefit from EduSat transmission.

11.0 FINDINGS OF THE STUDY

The analysis and interpretation of the present study have reflected some findings which are of high significance.The major findings have been discussed under following sections.

11.1 Section A

Findings Pertaining to Comparison of The Performance of Children in Academic Achievement in the ROT and Non -ROT Schools of Sidhi District

- The overall average achievement level of children of Std V of ROT and Non-ROT schools of Sidhi district is at comparable level i.e. children of both category of schools are nearly at the same level (M% = 46.36 for ROT schools and 46.78 for Non-ROT schools).

- The mean percentages of children of Std V of ROT schools in respect of many sub groups like General Girls, General Boys and Girls, SC boys, ST boys, OBC Boys, OBC Girls and OBC Boys & Girls are higher than their counterparts of non-ROT schools. But these differences are not statistically significant.

- On the basis of overall comparison, it is found that the mean percentage of children of III Std of ROT schools (M=39.62) is higher than that of the children of non-ROT schools (M= 37.46). It equally holds good for boys (M% of ROT school 42.16 and non-ROT school 41.96) and Girls (M% of ROT Schools 37.08 and Non-ROT schools 32.95) as well.

11.2 Section B

Findings Pertaining to Comparison of Performance of Children's Achievement on Hindi in the ROT and Non-ROT Schools of Sidhi District

- In case of boys of Class V, there is no significant difference between the mean achievement in Hindi of ROT and non-ROT schools but in case of girls, the difference is significant and is in favour of children of non-ROT schools. The mean percentage of children of non-ROT school is higher than that of their ROT counterparts.

- In case of all other subgroups like General, SC, ST, OBC also the mean percentage of children of Class V is higher for children of non-ROT schools in comparison of non-ROT schools in comparison to Non ROT schools.

- Mean percentage of children of Class III in Hindi of ROT schools is lower than their counterparts of Non-ROT schools under all groups and sub-groups except General Boys and OBC Girls. But in none of the groups and sub-groups, it is found to be statistically significant.

- Comparison of the mean achievement of children from ROT and non-ROT schools of each class/standard shows that there exists a difference between the achievement level of children. However, though these differences are not significant are in favour of children of non-ROT schools.

11.3 Section C

Findings Pertaining to Comparison of Performance of Children's Achievement on English in the ROT and Non - ROT Schools of Sidhi District

- Comparison of the mean achievement of children of Std V in English between ROT and non-ROT schools in Sidhi district shows that children of ROT school perform better (higher mean percentage) than non-ROT counterparts. This hold good in case of all groups like General, SC, ST and OBC as well. Similar is the situation with regard to certain sub group like General Girls, SC Boys, SC girls, ST girls and OBC Girls.
- This is no significant difference between mean percentage of children of Std III in English belonging to ROT and non-ROT schools of Sidhi district but the difference is in favour of children of ROT schools under all groups and sub-groups except in case of SC girls, ST boys and ST girls.
- The performance in English of children belonging to ROT schools is found to be higher than that of non ROT schools in class III as well as class V.

11.4 Section D

Findings Pertaining to Comparison of Performance of Children's Achievement on EVS in the ROT and Non-ROT Schools of Sidhi District

- Mean percentage of Girls (M=50.53) and Boys & Girls (M=50.46) of Std V in ROT schools is higher than that of their counterparts belonging to non-ROT schools in EVS but in case of boys (M=50.90) of Std V in ROT schools, it is lower than their counterparts of non-ROT schools.
- In certain sub-groups under ROT schools like Gen. Girls (M=53.14), Gen. Boys & Girls (M=52.62), ST Girls (50.4) OBC Boys (M=58.39) OBC Girls (M=56.88) and OBC Boys & Girls (M=57.62) the mean percentage is higher in comparison to their Non-ROT counterparts.
- In case of children of Std III Mean percentage of children of ROT schools is higher than their Non ROT counterparts except under certain subgroups like SC girls, ST boys and OBC boys.

- In ROT schools achievement of boys and girls of Std III and girls of Std V in EVS and in other sub-groups as well is higher than that of their non-ROT counterparts which clearly reflects the efficacy of the transmission through EduSat.

11.5 Section E

Findings Pertaining to Comparison of Performance of Children's Achievement on Mathematics in the ROT and Non-ROT Schools of Sidhi District

- The mean percentage of children in mathematics under ROT schools of Sidhi district is higher that that of their counterparts of non-ROT schools. This also holds good in case of boys, girls and certain sub groups like Gen. Boys, ST boys, ST girls, OBC boys and OBC girls. Though the differences are not statistically significant, these are in favour of children of ROT schools.

- Mean percentage of children of Std III in mathematics is higher in case of general and OBC category belonging to ROT schools but in case of SC and ST children the mean percentage of non-ROT school children is higher except SC girls.

- There is no significant difference between the mean percentage of children of Std III belonging to ROT and non-ROT schools of Sidhi district but in very few cases it is in favor of children of ROT schools i.e. Gen. Boys (M%=49.79) Gen. Girls (M%=38.2), Gen. Boys and Girls (M%=44), SC Boys (M%=39.7), ST Girls (M%=35.07), ST boys and girls (M%=37.14), OBC girls (38.19) etc.

11.6 Section F: Findings Pertaining to Comparison of Performance of Children's Achievement on Newly Generated Competency-Based Achievement Tests (Hindi, English, EVS and Mathematics) in the ROT and Non-ROT Schools of Rampur Block of Sidhi District.

- In Rampur block their exist a small difference in overall academic achievement of children of class V belonging to ROT and non ROT schools which is in favour of ROT schools. But in respect of certain subgroups like Gen. Boys, Gen. girls, SC boys and SC girls mean percentage of children of non-ROT schools is more than that of ROT schools.

- The mean achievement of children of Std V of ROT schools is higher in Hindi, English and EVS but in Mathematics the mean achievement of ROT school children is lower than the children of non-ROT schools.

- On the basis of over all achievement of children of Std III it is found that the mean achievement of non-ROT school children is higher than that of ROT schools, Similar is the situation with regard to certain subgroups like General, ST and OBC category as well.

- Achievement of children of Std III of Rampur block of ROT schools is higher in the subject of Hindi, English and EVS than that of children of non-ROT schools. But in case of Mathematics the achievement level of children of non-ROT schools is higher than ROT schools. This suggests that the teaching of mathematics through the transmission of Edusat needs improvement in content communication.

11.7 Section G

Findings Pertaining to Comparison of Performance of Children's Achievement on Newly Generated Competency-Based Achievement Tests (Hindi, English, EVS And Mathematics) in the ROT and Non-ROT Schools of Majholi Block of Sidhi District.

- In Majoholi Block the overall mean percentage of children of Std V under ROT schools is higher than that of their counterparts of non-ROT schools. However, this difference is not statistically significant. This also holds good in respect of certain sub groups like General and OBC children.

- The mean achievement of children of Std V under ROT schools in Hindi, English, Mathematics and EVS is higher than that of children of non-ROT schools and these differences are statistically significant

- Overall mean achievement of children of Std III under non-ROT schools is much higher than that of children of ROT schools. This holds good in respect of all groups and sub-groups.

- There is a significant difference between the mean achievements of children of III Std in English whereas mean achievement level of non-ROT school children is nearly two times higher than ROT school children. In case of Hindi and Mathematics though the difference is not significant, it is higher in case of non-ROT school children. Only in EVS the mean achievement level of children of ROT school is slightly higher than that of non-ROT school children.

11.8 Section H

Findings Pertaining to Comparison of Performance of Children's Achievement on Newly Generated Competency-Based Achievement Tests (Hindi, English, EVS and Mathematics) an the ROT and Non-ROT Schools of Chitrongi Block of Sidhi District.

- Overall mean percentage of children of standard V belonging to ROT schools is higher than that of non-ROT schools. However, these differences are not statistically significant.

- There is a significant difference between the mean achievement of children of class V in ROT and non-ROT schools in all the four subjects (Hindi, English, Mathematics and EVS). The difference is in favour of children belonging to ROT schools in respect of three subjects namely; English, EVS and Mathematics but in case of Hindi it is in favour of non-ROT schools.

- Overall mean percentage of children of class III (irrespective of groups, subgroups and gender) is higher (but not statistically significant) in case of children of ROT schools than that of their counterparts of non-ROT schools.

- There exist a significant difference between the mean achievement of children of class III of ROT and non-ROT schools in EVS and Mathematics and these differences are in favour of ROT schools.However, in case of Hindi and English (languages) though the mean achievement of children of ROT schools is higher but these are not statistically significant.

11.9 Section I

Findings Pertaining to Comparison of Performance of Children's Achievement on Newly Generated Competency-Based Achievement Tests (Hindi, English, EVS and Mathematics) in the ROT And Non-ROT Schools of Devsar Block of Sidhi District.

- The average (percentage) achievement level of class V children belonging to non-ROT schools is high (49.72) than that of ROT schools (72.32). This also equally holds good for sub group like boys and girls as well. Similar is the situation in respect of the various sub groups of General, SC, ST and OBC.

- There is a significant difference between the mean achievement of children of class V belonging to ROT and non-ROT schools in Hindi (C.R.=2.72) and EVS (C.R.=3.07) and these differences are in favour of children of non-ROT schools. In case of English and Mathematics though differences are not significant statistically, these are in favour of children of non-ROT schools.

- Overall academic achievement (mean percentage) of children of class III is higher in case of ROT schools (59.42) than that of their counterparts of Non ROT schools (38.24). Similar is the situation with regard to the mean percentage of boys and girls, where boys and girls of ROT school secured higher percentage than that of Non ROT school. This equally holds good for certain subgroup like General and OBC irrespective of gender.

- The mean achievement of children of class III belonging to ROT schools is higher in Hindi , EVS and Mathematics than that of children of non-ROT schools whereas in English achievement level of children of non-ROT school is higher than ROT schools. The differences are not significant. However, a significant difference is noticed in the achievement of Hindi in respect of the subgroup boys (C.R.=4.39), EVS in respect of Boys (C.R.=3.88), girls (C.R.=2.73) and Mathematics for subgroup girls (C.R.=2.16), in which the differences are in favour of children of ROT school. Only in case of English the difference is in favour of children of non-ROT schools.

11.10 Section J

Findings Pertaining to Comparison of Performance of Children's Achievement on Newly Generated Competency-Based Achievement Tests (Hindi, English, EVS And Mathematics) in the ROT and Non-ROT Schools of Waidhan Block of Sidhi District.

- There is no significant between the academic achievement of children of Std V belonging to ROT and non-ROT schools. Though the differences are not statistically significant, these are in favour of children of non-ROT schools in respect of all groups and sub groups irrespective of gender.

- A significant differences in achievement of children of class V are noticed in the subjects Hindi (C.R.=2.34) and English (C.R.=2.00) which are in favour of non-ROT schools. As far as the achievement in EVS and Mathematics is concerned though the mean achievement of children of non-ROT schools is higher but the differences is mean between the achievement of children of ROT and non- ROT schools are not statistically significant.

- Mean percentage of children of class III of non-ROT schools is on the higher side than that of ROT schools except in case of Gen boys, ST boys and boys as a whole of ROT schools which is higher in all subjects in comparison to children of non-ROT schools.

- Overall mean achievement of children of class III in all the four subjects Hindi, EVS, English and Mathematics is higher in non-ROT schools, but the differences are not statistically significant. This holds good in respect of all groups and sub groups except General boys.

11.11 Section K

Findings Pertaining to Comparison of Performance of Children's Achievement on Newly Generated Competency-Based Achievement Tests (Hindi, English, EVS and Mathematics) in the ROT and NOT ROT Schools of Sihawal Block of Sidhi District.

- There is a difference between the academic achievement of children of class V belonging to ROT and non-ROT schools of Sihawal block. The difference is in favour of children belonging to non-ROT schools except in case of General (Girls) which is in favour of ROT schools. The differences between the mean academic achievement of children belonging to two types of schools in Sihawal block is not statisucally significant.

- With regard to achievement of children of class V there is a significant difference between the mean achievement level of children of two types of school i.e. ROT and non-ROT school in Hindi (C.R.=4.32), English (C.R.=4.25), and EVS (C.R.=3.36). This differences is in favour of children of non-ROT schools. But in case of Mathematics though the difference is not significant, the mean achievement is lower in case of children of ROT schools in comparison to non-ROT schools.

- No differences are found to be statistically significant between the mean percentage of achievement of children of class V belonging to ROT and Non

ROT schools. Except under General girls, for all other groups and sub groups the differences are in favour of children of non-ROT schools.

- The mean achievement of children of class III belonging to non-ROT schools is higher in all subjects i.e. Hindi, English, EVS and Mathematics than ROT schools. These differences are statistically significant as well. Similar is the situation with regard to achievement of boys in all subjects of non-ROT schools but the difference are not significant except in Hindi.

11.12 Section L

Findings Pertaining to Comparison of Performance of Children's Achievement on Newly Generated Competency-Based Achievement Tests (Hindi, English, EVS and Mathematics) in the ROT and NON-ROT Schools of Sidhi Block of Sidhi District.

- Under all groups and subgroups the difference in mean percentage of achievement of children of class V between ROT and non-ROT schools are not significant but the overall mean percentage of children of ROT schools is on the higher side than their counterparts of non-ROT schools.

- There is a significant difference between the mean achievement of children of std V belonging to ROT and non-ROT schools in Hindi (C.R=4.80) English (C.R.=5.34) and Mathematics (C.R=3.57) where the differences are in favour of children of ROT schools. In case of EVS though the differences are in favour of ROT schools these are not statistically significant. Difference in achievement of girls in Mathematics, EVS and Hindi are found to be significant where as in case of boys it is significant only in Hindi which are in favour of children of ROT schools.

- The mean percentage of children of ROT schools in Std III are higher than their counterparts of non-ROT schools. Similar is the situation with regard to all groups and sub groups. But on the basis of the critical ratio values the differences are not statistically significant.

- The differences in mean achievement of children of Std III in Hindi, EVS, English and Mathematics are found to be 2.89, 12.29, 5.19 and 10.77 respectively in ROT and non-ROT schools. These differences are in favour of children of ROT schools. Similar is the situation with regard to mean differences in achievement in all subjects in case of boys of ROT and Non ROT schools.

12.0 EDUCATIONAL IMPLICATIONS

The findings of the present study have implications for improving the planning instructional strategies for EduSat programme in general and for specific target groups in particular.

One of the objectives of the present study was to examine the effectiveness of EduSat programme on improving the academic achievement of children. The trend analysis programmes indicates that EduSat transmission is steadily making consistent progress towards the improvement of the academic achievement of children and development of academic environment in the primary/elementary schools. However, specific observation based on the basis of the findings of the present study requires strategic planning and its effective implementation.

Since all the sample schools were found to have inadequate essential facilities in respect of seating arrangements and study materials. Hence steps may be taken to mobilize block and district authorities to make funds available for these purposes. A large number of teacher may be provided training/orientation and their services should be utilized in schools for taking maximum benefit of EduSat transmission and thereby increasing achievement of students. Steps may be taken to appoint a nodal officer in each Block who should be accountable for making necessary arrangement and maintenance of ROTs and T.V. sets and ensure success of EduSat programme.

More focused attention is required to improve the participation of concerned subject teacher in interaction/discussion sessions after the transmission.The following intervention strategies may be used for improving the quality of EduSat transmission.

- Information related to details of the topic to be transmitted, indicating class for which it is meant should be given through a programme schedule in advance to all schools.
- Support material on each topic be prepared and supplied to concerned teachers in advance.
- Teachers of elementary school be trained on how to facilitate the teaching-learning process during transmission. Teacher educators (DIET faculty) should be involved in such activities and DIETs should be made responsible to make the monitoring activity more effective.

- Trained teachers be invited and involved during the development of content for the transmission. Suggestions of local teachers be invited and duly acknowledged by incorporating them in the development of tele-content.
- Appropriate resource (tele-teacher) persons who can easily communicate through local dialect be selected and invited for teaching/instruction from studio. Language used by tele-teachers should be simple and clear.
- Teachers working at elementary level be encouraged to initiate pre and post transmission discussion with children to ensure their interest and encouragement towards teaching through EduSat.
- Resource person may be asked to use more and more examples, illustrations and activity to develop the curiosity of children and make them participate actively in teaching-learning process.
- Provision be made to set ROTs at BRCs and SIT DIET through which monitoring strategy can be strengthened and made effective.
- The present strategy of transmitting the content irregularly and haphazardly be regularized. Instead of covering all subjects from Class II to VIII steps may be taken to cover one subject for each class, as a result of which children can get continuous feedback of the topic delivered through EduSat.
- Time of transmission may be distributed classwise so that in a day transmission may be made for more than one class.
- Local community be involved in the supervision and monitoring of programme for providing more benefit to children and at the same time ensuring enrolment of children and reducing the rate of drop out as well.
- Follow up activity be undertaken for programme transmissions from District and State authorities so as to develop seriousness among the functionaries of SSA for improving the quality of subsequent transmission.

13.0 SUGGESTIONS FOR FURTHER RESEARCH

In the light of the present study the following suggestions emerge for further research.

i) The study may be undertaken on a larger sample covering other districts of Uttar Pradesh, Bihar and Chhattisgarh.

ii) Factors related to local needs may be investigated in relation to perception and state of activity of teachers and other stakeholders concerned with EduSat programme.

iii) Standardized achievement tests in the subjects of EVS, Hindi, English and Mathematics may be developed and standardized keeping in view the local needs.

iv) Studies involving both quantitative and qualitative data may be undertaken.

v) Other factors home related in respect of achievement of children in various studies may be investigated.

vi) The findings of the study may be cross-validated.

14.0 REFERENCES

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APPENDIX - I

(Newly developed competency based achievement test for Std. III)

SUB-ENGLISH **TIME:30 Min** **Total Marks : 25**

Q. No. 1 to 3

Write the appropriate word in the blank space given below. **(3)**

1. Elephant likes ______________________

   A. Bananas
   B. Mangoes
   C. Oranges
   D. Apples

2. Rabbit likes ________________________

   A. Carrot
   B. Tomatoes
   C. Potatoes
   D. Onions

3. __________________ likes milk.

   A. Camel
   B. Cat
   C. Cow
   D. Horse

Q. No. 4 to 6 Tick (✓) right or wrong. **(3)**

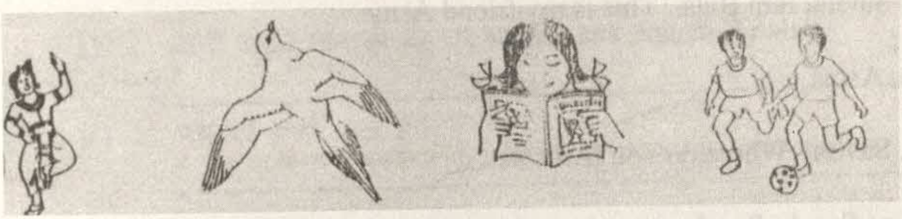
4 Milk is white Right/wrong

5. Oranges are white Right/Wrong

6. Sky is blue Right/wrong

Q.No. 7 to 10

Write the action words given below under the picture below **(4)**
Playing ,Flying, Dancing, Reading,



7. __________

8. __________

9. __________

10. __________

Q. No. 11 to 14

Arrange the letters to write names of the following objects **(4)**

11. ____________ abg

12. ____________ npe

13. ____________ tago

14. ____________ tca

Use Capital letters, full stop (.) and question mark (?) in the following sentences

15. Savita is Bala's friend.

16. Arif lives in Nehru Nagar

17. Where do you live

Read the following conversation carefully.

Savita : Hellow, I am Savita.

Bala : Hello Savita, Iam Bala. This is my friend Asma.

Savita : Hello, Asma

Asma : hello, Savita. Where do you live.

Savita : I live on Sanchi Road.

Bala : How old are you Savita ?

Savita : I am eight, and you?

Bala : I am nine, and you Bala?

Complete these sentences on the basis of above conversation.

18. I am Savita, I live ______________________

19 I am Bala, This is ______________Asma

20 Bala is ______________old

21 Asma's friend is ________________

22. Savita is ____________years old.

Write 3 sentences about your school.

23. ____

24. ____

25. ____

विषय : हिन्दी **कुल अंक : 25**

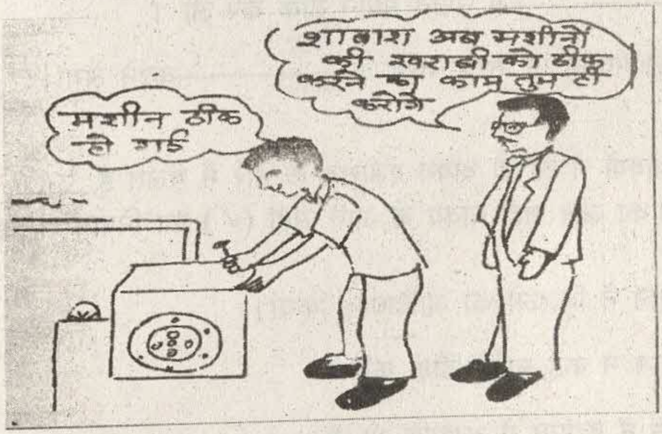
1. रेखा की सहेली का पत्र के पाठ के आधार पर नीचे दिए गए प्रश्नों के उत्तर दीजिए। 4

i) रानी अपने मामाजी के घर पचमढ़ी कब गई थी ?

ii) पचमढ़ी कहाँ बसा है?

iii) पंचमढ़ी के दो दर्षनीय स्थानों के नाम लिखिए।

iv) रानी ने रेखा से गर्म कपड़े लाने के लिए क्यों कहा?


शाबाश अब मशीनों की खराबी को ठीक करने का काम तुम ही करोगे
मशीन ठीक हो गई

2 ऊपर दिए गए चित्र को ध्यान से देखिए और उसके आधार पर नीचे दिए गए प्रश्नों के उत्तर दीजिए। 3

i) चित्र में झुके हुए आदमी ने दूसरे आदमी से क्या कहा ?

ii) दूसरे आदमी ने उसकी तारीफ़ कैसे की ?

iii) दूसरे आदमी ने उसकी तारीफ़ क्यों की ?

3 महान वैज्ञानिक एडीसन पाठ के आधार पर खाली स्थान भरिए 2

i) मषीन खराब हो गई थी, थॉमस ने उसे ———कर दिया ।

ii) तस्वीरों में आवाज़ भरने के कठिन काम को भी उसने ——————कर दिया

4 दिए गए शब्दों में से सही शब्द चुनकर खाली स्थान भरिऐ । 5

(अवसर, मेहनत, इरादा, प्रयोग, उपयोग, पर्वतीय)

i) थॉमस ने नई–नई चीज़ों को बनाने का ——————कर लिया ।

ii) पचमढ़ी बहुत सुंदर———————— स्थान है।

iii) मेरा यह पहला ———है ।

iv) ——————से उसने मषीन ठीक कर ली ।

v) थॉमस मषीनों पर तरह–तरह के —————करने लगा।

5 नीचे दिए गए वाक्यों में से जो वाक्य एडीसन के बारे में गलत हैं, उनके आगे गलत (x) का और सही वाक्य के आगे सही (✓) का निषान लगाइए। 5

i) एडीसन ने बिजली का आविष्कार किया।

ii) एडीसन ने कई मषीनें ठीक की।

iii) थॉमस ने बचपन में अखबार भी बेचे।

iv) एडीसन महान वैज्ञानिक नहीं बन सका।

v) षिक्षक एडीसन को साधारण बालक समझते थें।

6 नीचे दिए गए शब्दों को सही करके उनके सामने लिखिए। 3

i) परीश्रम ________________

ii) फूरसत ________________

iii) उतसाह ________________

7. क खण्ड के नीचे कुछ शब्द दिए गए हैं और ख खंड के नीचे उनके अर्थ। शब्दों को उनके सही अर्थों से रेखा खींचकर मिलाएँ । 3

क	ख
प्रसिद्ध	कोषिष
स्थान	मषहूर
प्रयास	देखने योग्य जगह

प्रश्न संख्या 1 से 15 में ठीक उत्तर के अक्षर पर गोले का चिन्ह बनायें

1) सम संख्या में इकाई का अंक क्या नहीं हो सकता ?
   - क) 0
   - ख) 2
   - ग) 5
   - घ) 8

2) चित्र में गमला नीचे से कौन सी सीढ़ी पर है ?
   - क) तीसरी
   - ख) चौथी
   - ग) दूसरी
   - घ) पाँचवी

3) उपर के चित्र में टोपी उपर से कौन–सी सीढ़ी पर रखी है ?
   - क) दूसरी
   - ख) तीसरी
   - ग) पाँचवी
   - घ) छठी

4) अप्रैल वर्ष का कौन सा माह है?
   - क) पहला
   - ख) तीसरा
   - ग) चौथा
   - घ) आठवाँ

5) 63—3 को हल करने पर क्या आता है?
   - क) 2
   - ख) 3
   - ग) 12
   - घ) 21

6) 306—6 को हल करने पर क्या आता है?
- क) 1
- ख) 6
- ग) 51
- घ) 312

7) 1 से 20 तक कुल कितनी सम संख्याएँ हैं?
- क) 2
- ख) 9
- ग) 10
- घ) 20

8) 8 टॉफी 2 बच्चों में बराबर–बराबर बाँटें तो प्रत्येक बच्चे को कितनी टॉफी मिलेंगी ?
- क) 2
- ख) 4
- ग) 6
- घ) 10

9) 3 बच्चों में 6 गुब्बारे बराबर–बराबर बाँटें तो प्रत्येक बच्चे को कितने गुब्बारे मिलेंगे?
- क) 9
- ख) 2
- ग) 3
- घ) 18

10) 120 पैंसिलें कितने डिब्बों में रखें कि प्रत्येक डिब्बे में 6 पैंसिलें आएँ ?
- क) 2
- ख) 10
- ग) 20
- घ) 32

11) 39 को 7 से भाग देने से क्या शेष बचेगा ?

क) 2
ख) 3
ग) 4
घ) 5

12) यदि एक पैकेट में 10 मोमबत्तियाँ हों तो 110 मोमबत्तियों के लिए कितने पैकेट चाहिए?

क) 1
ख) 10
ग) 11
घ) 100

13) नल से पानी लेने के लिए सबसे आगे अनिल फिर उसके पीछे लाइन में माया, सुनील, सुनीता, सुभाष, विजय और नीलम खड़े हैं तो बताइए सुनील नल से कौन से स्थान पर खड़ा है?

क) दूसरे
ख) तीसरे
ग) चौथे
घ) पाँचवें

14) वर्ष के छठे माह का क्या नाम है?

क) अप्रैल
ख) जून
ग) जुलाई
घ) अगस्त

15) 10, 63, 91, 13, 6, 19, 56, 3 तथा 18 में कितनी विषम संख्याएँ हैं ?

क) 3
ख) 4
ग) 5
घ) 9

प्रश्न संख्या 16 से 20 में रिक्त स्थान भरिए

16) जिन संख्याओं में दो का पूरा–पूरा भाग नहीं जाता वे ————————संख्याऐं कहलाती हैं।

17) ⑥ ⑤ ② ③ ⑨ ⑧ ⑦ में संख्या 9 के बांईं ओर की संख्या ———है।

18) 72—8 = 9 में भाज्य ————————है।

19) 85—17 = 5 में भागफल ———————— है।

20) 125—5 = 25 में भाजक ———————— है।

प्रश्न संख्या 21 से 23 में उचित उत्तर छाँट कर रिक्त स्थान में भरिए।

21) संख्या रेखा पर प्रदर्षित दो संख्याओं में दाईं ओर की संख्या ————————होती है। (छोटी/बड़ी)

22) दो सम संख्याओं का जोड़ सदा ————————संख्या होता है। (सम/विषम)

23) दो विषम संख्याओं का जोड़ सदा ————————संख्या होता है। (सम/विषम)

24) ————————————————
संख्या रेखा पर 5 प्रदर्षित करें।

25) ————————————————
संख्या रेखा पर अंकित बिंदु किस संख्या को प्रदर्षित कर रहा है?

प्रश्न 1 से 8 तक सही विकल्प चुनिए।

1 पेड़ षुद्ध करते हैं

क) पानी को

ख) हवा को

ग) भोजन को

घ) मिट्टी को

2 बच्चों को प्रतिदिन कम से कम कितना पानी पीना चाहिए ?

क) 8–12 गिलास

ख) 6–8 गिलास

ग) 2–4 गिलास

घ) 1 या 2 गिलास

3 शद्ध और ताज़ा हवा के लिए घर में होने चाहिए –

क) खिड़कियाँ,

ख) रोषनदान

ग) दरवाज़ें

घ) उपरोक्त सभी

4 बर्तन में से पानी निकालते का सबसे सही तरीका है –

क) लम्बी डंडी वाले बर्तन का उपयोग

ख) हाथ का उपयोग

ग) छोटी, डंडी वाले बर्तन का उपयोग

घ) गिलास का उपयोग

5 प्राथमिक उपचार बाक्स में क्या जरूरी होना चाहिए?

क) माचिस

ख) डेटॉल

ग) मोमबत्ती

घ) चाकू

6 निम्नलिखित में किसका उपयोग सावधानीपूर्वक करना चाहिए ?

क) ब्लेड
ख) रबड़
ग) स्केल
घ) चांदा

7 बिजली के स्विचों को नहीं छूना चाहिए

क) लकड़ी के टुकड़ों से
ख) रबड के दस्ताने पहनकर
ग) जूते पहनकर
घ) गीले हाथों से

8 सड़क पार करते समय हमें किस बात का ध्यान देना चाहिए ?

क) दाईं ओर देखना चाहिए
ख) बाईं ओर देखना चाहिए
ग) सामने देखना चाहिए
घ) दायें और बाऐं दोनों ओर देखना चाहिएं

प्रष्न 9 से 16 तक सही या गलत का निषान लगाऐं

9. भोजन करते समय हँसना या बोलना नहीं चाहिये। ( )

10. दूध से दही, मक्खन, घी, मावा, पनीर बनते हैं। ( )

11. पेड़–पौधे, जन्तुओं को भी पानी की आवष्यकता होती है। ( )

12. हवा के बिना भी जीवित रहा जा सकता है। ( )

13. हमें सड़क के दाईं ओर चलना चाहिए। ( )

14. हमें ज़ेब्रा क्रास्रिंग से ही सड़क पार करनी चाहिए। ( )

15. घर की छत पर खड़े होकर पतंग नहीं उड़ानी चाहिए। ( )

16. हमें खुली जगह जैसे कि सड़क पर खेलना चाहिए। ( )

प्रश्न 17 से 25 तक रिक्त स्थान भरिए

17. भोजन, पानी व ————————हमारे जीवन की मुख्य आवष्यकता है।

18. हमारे शरीर का ————————हिस्सा पानी है।

19. भोजन को धीरे–धीरे और ————————खाना चाहिए।

20. हवा में उपस्थित ——————हमें सांस लेने के लिए आवष्यक है।

21. हमें हमेषा स्वच्छ और ————————भोजन करना चाहिए।

22. शरीर के जले हुए भाग पर तुरंत ——————डालना चाहिए।

23. दुर्घटना होने पर व्यक्ति को डॉक्टर के आने से पूर्व दी जाने वाली सहायता को ————————कहते हैं।

24. दिवाली पर ————————सावधानी से चलाना चाहिए।

25. लापरवाही के कारण ————————हो सकती है।

Appendix – II

(Newly developed competency based achievement test for Std. V)

SUB : ENGLISH **TIME : 30 MIN** **TOTAL MARKS : 25**

Fill in the blanks (4)

1. Rita gave me Samosa
   I said ________________.

2. Raju reached late in class.
   He said _______ _______ _______

3. Bala asked Sheela, "How are you?"
   Sheela said, " ______________ Thank you."

4. Seema said, " asif ________________give me your pencil."

Make new words from the following (4)

5. Railway __________(Room, Station)

6. Pencil ______________ (Box, Case)

7. Post ________________ (Room, Box)

8. ____________________ (Station, post)

Fill in the words using following words (4)
(play, do, get, up, go)

9. I ___________ football.

10. I ___________my homework regularly.

11. I___________in the morning.

12. I ___________ to school regularly.

Put tick (✓) in the correct column, (4)

13. Wash your hands before you eat. Do/Don't

14. Hurt birds or animals Do/Don't

15. Go late to school Do/Don't

16. Wish your elders when you meet them Do/Don't

17. **Use these words to fill in the blanks** (3)
(Platform, Luggage, Tiffin, waiting, trains, tasty, share, train)

Raju and Tapas are at the railway station. The _________ arrives. Thre are a lot of people on the _____________. There are porters carrying _________. Some people are in the waiting room. There are __________ for their ___________. Raju is hungry. He takes out his ___________. He _________ with Tapas. Tapas says it is very tasty.

18. **Write 6 sentenses about your village.** (6)

विषय : हिन्दी **समय अवधि – 30 मिनट** **कुल अंक : 25**

नीचे दिए गए प्रश्नों (प्रश्न 1 से 6) के चार–चार उत्तर दिए गए हैं। उनमें से एक ही उत्तर सही है। सही उत्तर के सामने सही का निशान (✓) लगायें। **6**

1 'बादल' शब्द का सही पर्यायवाची शब्द क्या है ?

क) सुमन
ख) नीर
ग) मेघ
घ) शषि

2. कौन–से जोड़े के शब्द एक दूसरे के समानार्थी हैं ?

क) गुण – दोष
ख) दुर्लभ – सुलभ
ग) उपयुक्त – अनुपयुक्त
घ) मान – सम्मान

3. काकोरी गाँव में क्या हुआ था ?

क) लाला लाजपत राय पर गोलियाँ बरसाई गईं थीं।
ख) सरकारी खज़ाना लूटा गया था ।
ग) चंद्रषेखर आज़ाद को बेंत लगाए गए थे।
घ) चंद्रषेखर आज़ाद का जन्म हुआ था ।

4. 'नर हो न निराष करो मन को' कविता की पंक्ति '*समझो जग को न निरा सपना*' में 'निरा' शब्द का अर्थ क्या है ?

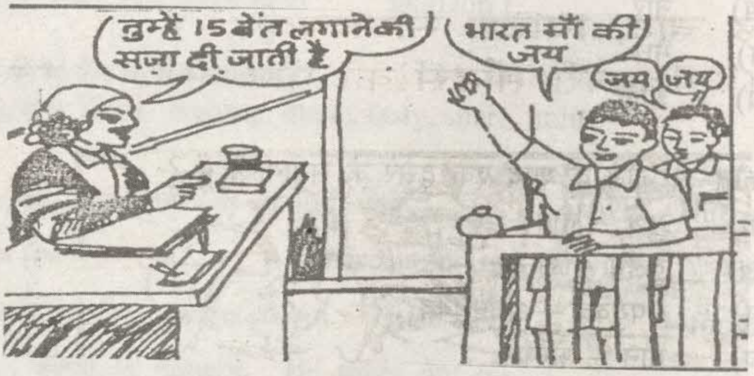
क) केवल
ख) अच्छा
ग) बुरा
घ) सुंदर

5. 'नर हो न निराष करो मन को' कविता की पंक्ति *'पथ आप प्रषस्त करो अपना'* का अर्थ क्या है ?

क) आप दूसरों को रास्ता दिखाओ ।
ख) अपना रास्ता स्वयं खोजो ।
ग) रास्ते पर आगे बढ़ते जाओ ।

घ) अपना रास्ता कभी मत भूलो।

6. मैडम क्यूरी के बारे में कौन सा वाक्य सही है ?
   क) उनके पिता डॉक्टर थे।
   ख) उन्हाने एक्स–रे किरण का पता लगाया ।
   ग) उनकी पढ़ने–लिखने में रूचि नहीं थी।
   घ) वे एक महान वैज्ञानिक थी ।


तुम्हें 15 बेंत लगाने की सज़ा दी जाती है
भारत माँ की जय
जय
जय

7. ऊपर दिए गए चित्र को ध्यान से देखिए और नीचे दिए गए प्रष्नों के उत्तर दीजिए। 2

i) मजिस्ट्रेट ने चन्द्रषेखर आज़ाद को क्या सज़ा दी ?

----

ii) सज़ा सुनकर चंद्रषेखर आज़ाद ने क्या कहा ?

----

8. नीचे कविता की कुछ पंक्तियाँ दी गईं हैं और उनके नीचे कुछ प्रष्न दिए गए हैं। पंक्तियाँ पढ़कर प्रष्नों के उत्तर दीजिए।

“मुझे तोड़ लेना वनमाली
उस पथ पर देना तुम फेंक
मातृभूमि पर शीष चढ़ाने
जिस पथ जाएँ वीर अनेक।श

i) फूल स्वयं को किस रास्ते पर फेंके जाने की प्रार्थना कर रहा है ? 2

----

ii) फूल की इस प्रार्थना से उसकी किस भावना का पता चलता है ? 2

----

iii) शीष शब्द का क्या अर्थ है? 1

----

9. 'मैडम क्यूरी' पाठ के आधार पर नीचे दिए गए प्रश्नों के उत्तर एक शब्द में दीजिए। 3

i) मैडम क्यूरी का जन्म कहाँ हुआ था ?

----

ii) मैडम क्यूरी की किस खोज पर उसे 'नाबेल पुरस्कार मिला ?

----

iii) मैडम क्यूरी का विवाह किससे हुआ था ?

----

10 चन्द्रषेखर आज़ाद पाठ के आधार पर वाक्यों को सही क्रम में लिखने के लिए उनकी सही क्रम संख्या उनके सामने दिए गए कोष्ठक में लिखिए । 4

(1) खज़ाना लूटने से अंग्रेज़ सरकार बौखला उठी। [ ]
(2) क्रांतिकारियों ने सरकारी खज़ाना लूट लिया। [ ]
(3) क्रांतिकारियों को धन की आवष्यकता थी। [ ]
(4) अग्रेज़ों ने कई क्रांतिकारियों को पकड़कर फांसी पर लटका दिया। [ ]

11. नीचे दिए गए वाक्यों में उपयुक्त विराम चिह्न लगाइए । 5

i) तुम्हारा घर कहाँ है
ii) हम जनता को नहीं सरकारी खज़ाना लूटेंगे
iii) साहब चन्द्रषेखर फिर हमारे हाथ से निकल गया

विषय : गणित   समय अवधि – 30 मिनट   कुल अंक : 25

नोट : प्रश्न सं 1 से 9 तक एक अंक तथा 10 से 17 तक 2 अंक के हैं।

प्रश्न संख्या 1 से 5 में रिक्त स्थान भरिए ।

1. किसी संख्या में प्राकृत संख्याओं का गुणा करने पर उस संख्या के ————प्राप्त होते हैं।
2. 5 किलोग्राम में ————ग्राम होते हैं।
3. 6 और 9 का लघुत्तम समापवर्तक ————है।
4. 30 और 42 का महत्तम समापवर्तक ————है।
5. 6453 में से 1596 घटाने पर शेष ————बचेगा ।

प्रश्न संख्या 6 सं 9 में कथम के सामने सही (✓) या गलत (x) का चिन्ह लगाएँ।

6. 1 सभी संख्याओं का अपवर्तक होता है।
7. 17 अभाज्य संख्या है।
8. किसी भी संख्या के सीमित अपवर्त्य होते हैं।
9. 2 संख्या 6 का अपवर्तक है।

प्रष्न संख्या 10 से 15 में सही उत्तर के अक्षर पर (✓) का चिन्ह बनाऐं ?

10. तीन लाख बहत्तर हजार आठ तथा ग्यारह लाख पाँच सौ बारह को जोड़ने पर क्या आएगा।
    क) 4820592
    ख) 1477200
    ग) 1472520
    घ) 1407720

11. सुनीता ने बड़े बेटे की कमीज़ के लिए 1 मीटर 75 सें मी., बेटी के सूट के लिए 3 मीटर 65 सें मी. और छोटे बेटे के कुरते–पाजामे के लिए 1 मीटर 80 सें. मी. कपड़ा खरीदा ?
    क) 5 मीटर 20 सें. मी.
    ख) 5 मीटर 22 सें. मी.

ग) 7 मीटर 20 सें. मी.
घ) 5 मीटर 40 सें. मी.

12. एक टैम्पो में गेहूँ से भरे 82 बोरे रखें हैं। हर बोरे में 40 किलोग्राम गेहूँ है। टैम्पों में कुल कितना गेहूँ है?
क) 42 किलोग्राम
ख) 328 किलोग्राम
ग) 3280 किलोग्राम
घ) 112 किलोग्राम

13. छः अंकों की सबसे छोटी संख्या और पांच अंकों की सबसे बड़ी संख्या में कितना अंतर है ?
क) 9
ख) 1
ग) 11
घ) 10000

**14. राम ने अपनी दुकान पर जनवरी माह में 6325 रू, फरवरी में 5823 और मार्च में 7019 रू0 कमाए। उसने जनवरी से मार्च तक कुल कितने रूपये कमाए **
क) 18157 रू
ख) 19167 रू
ग) 1811517 रू
घ) 19617 रू

15. 2320 लीटर तेल वाले एक टेंकर से 75 लोगों को 30–30 लीटर तेल बाँट देने के बाद टेंकर में कितना तेल बचेगा ?
क) 70 लीटर
ख) 2250 लीटर
ग) 105 लीटर
घ) 1 लीटर

16. यदि एक गिलास में 250 मिली लीटर पानी आता है तो 25 गिलासों में कितने लीटर पानी आएगा ?

17. नीचे ☐ स्थानों पर सही अंक भरो ।

$$\begin{array}{ccccc} 6 & \square & \square & \square & 6 \\ + & 7 & 0 & 8 & \square \\ \hline 6, & 8 & 5 & 4 & 6 \\ \hline \end{array}$$

विषय : पर्यावरण अध्ययन समय अवधि – 30 मिनट पू. सं.: 25

प्रश्न 1 से 13 तक सही विकल्प चुनिए।

1) पृथ्वी के विभिन्न भागों को एक साथ देखने के लिए पृथ्वी का एक छोटा नमूना बनाया जाता है जिसे कहते हैं ।
   क) चार्ट
   ख) ग्लोब
   ग) मानचित्र
   घ) नक्षा

2) पृथ्वी के बड़े-बड़े भू-भाग जिसमें कई देष होते हैं उसे कहते हैं :
   क) उत्तरी गोलार्द्ध
   ख) महासागर
   ग) महाद्वीप
   घ) दक्षिणी ध्रुव

3) द्वितीय विष्वयुद्ध कब हुआ था ?
   क) 1939 ई. में
   ख) 1931 ई. में
   ग) 1942 ई. में
   घ) 1947 ई. में

4) करो या मरो का नारा किसने दिया था ?
   क) नेताजी सुभाष चन्द्र बोस
   ख) चन्द्रषेखर आज़ाद
   ग) महात्मा गाँधी
   घ) जनरल डायर

5) स्वतंत्रता दिवस एवं गणतंत्र दिवस कब मनाये जाते हैं ?
   क) 14 अगस्त, 25 जनवरी
   ख) 26 जनवरी, 15 अगस्त।
   ग) 15 अगस्त, 26 जनवरी।
   घ) 14 अगस्त, 30 जनवरी

6) भांगड़ा किस राज्य का प्रसिद्ध नृत्य है?
   क) त्रिपुरा
   ख) पंजाब

ग) उत्तर प्रदेष
घ) केरल

7) किस आयु से मतदान कर सकते हैं ?
क) 19 वर्ष
ख) 18 वर्ष
ग) 20 वर्ष
घ) 25 वर्ष

8) मध्यप्रदेष का उच्च न्यायालय स्थित है।
क) सीधी में
ख) भोपाल में
ग) जबलपुर में
घ) इंदौर में

9) रतौंधी किस विटामिन की कमी के कारण होता है ?
क) विटामिन ए
ख) विटामिन बी
ग) विटामिन सी
घ) विटामिन डी

10) प्रोटीन का स्रोत कौन सा है?
क) शहद
ख) सोयाबीन
ग) चावल
घ) आंवला

11) षरीर में किसकी कमी से हड्डी तथा दाँत कमज़ोर होते हैं?
क) कैल्षियम
ख) प्रोटीन
ग) आयोडीन
घ) सोडियम

12) खसरा रोग का कारण है :
क) जीवाणु
ख) विषाणु
ग) कृमि
घ) प्रोटोज़ोआ

13) किस रोग से पीड़ित रोगी को अधिक मात्रा में तरल पदार्थ दिये जाते हैं ?
    क) मियादी बुखार
    ख) चेचक
    ग) अतिसार
    घ) इन्फलूएंजा

प्रश्न 14 से 19 तक रिक्त स्थानों की पूर्ति कीजिए ।

14) ग्लोब पर कुल ————————देषांतर रेखएं होती हैं।

15) नेताजी सुभाषचन्द्र बोस ने ————————नामक फ़ौज़ बनाई।

16) केसर की खेती ————————में होती है।

17) शासन को सुचारू रूप से चलाने के लिखित नियम हैं जिसे देष का ——————कहते हैं।

18) सभी पोषक तत्वों से युक्त भोजन को ————————आहार कहते हैं।

19) जीवन रक्षक घोल ————से पीड़ित व्यक्तियों के लिए बहुत लाभदायक है।

प्रश्न 20 से 25 मे सही मे सही/गलत का चिन्ह लगाइये।

20) ग्लोब पर सागर और महासागर को नीले रंग से दिखाया जाता है।

21) साइमन कमीषन का कार्य देष में छुआ-छूत जैसी कुरीतियों को मिटाना था।

22) सात बहिनों के नाम से प्रसिद्ध पर्वतीय राज्य देष के पूर्वोतर भाग में स्थित है।

23) शासन चलाने का वह तरीका जिसमें इस देष के समस्त निवासियों का योगदान हो उसे गणतंत्र कहा जाता है।

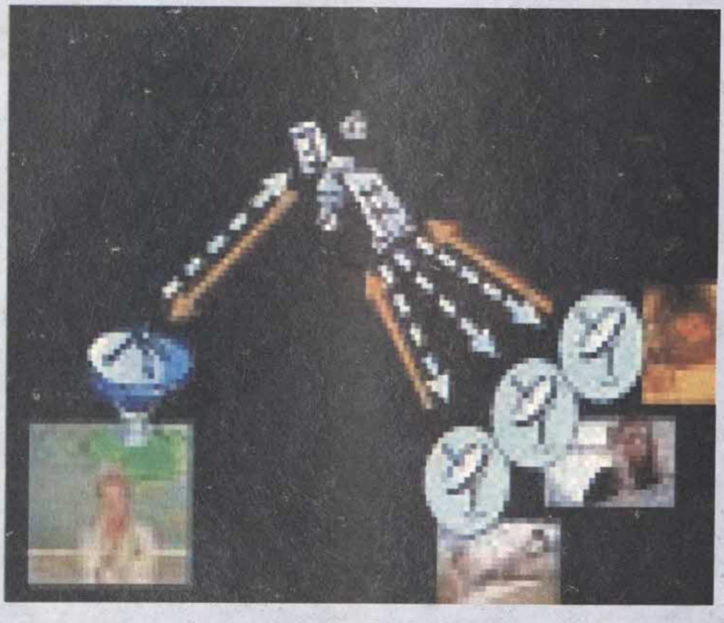
24) लौह खनिज की कमी से घेंघा रोग हो जाता है।

25) संक्रामक रोगों की रोकथाम के लिए टीकाकरण सुरक्षित उपाय है।

सर्व शिक्षा अभियान

सब पढ़ें सब बढ़ें

The teacher has to play multi-dimensional roles of acting as subject teacher, experimentalist, innovator, guide and above all constant learner. Innovative and good class room practices can flow only from a focused mindset and from commitment for the noble profession of teaching and learning. The contributions by teachers and teacher educators, which have been included in this publication strongly reflect this professional mindset and commitment. It is expected that this publication will encourage others too for replication.



सर्व शिक्षा अभियान

सब पढ़ें सब बढ़ें

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